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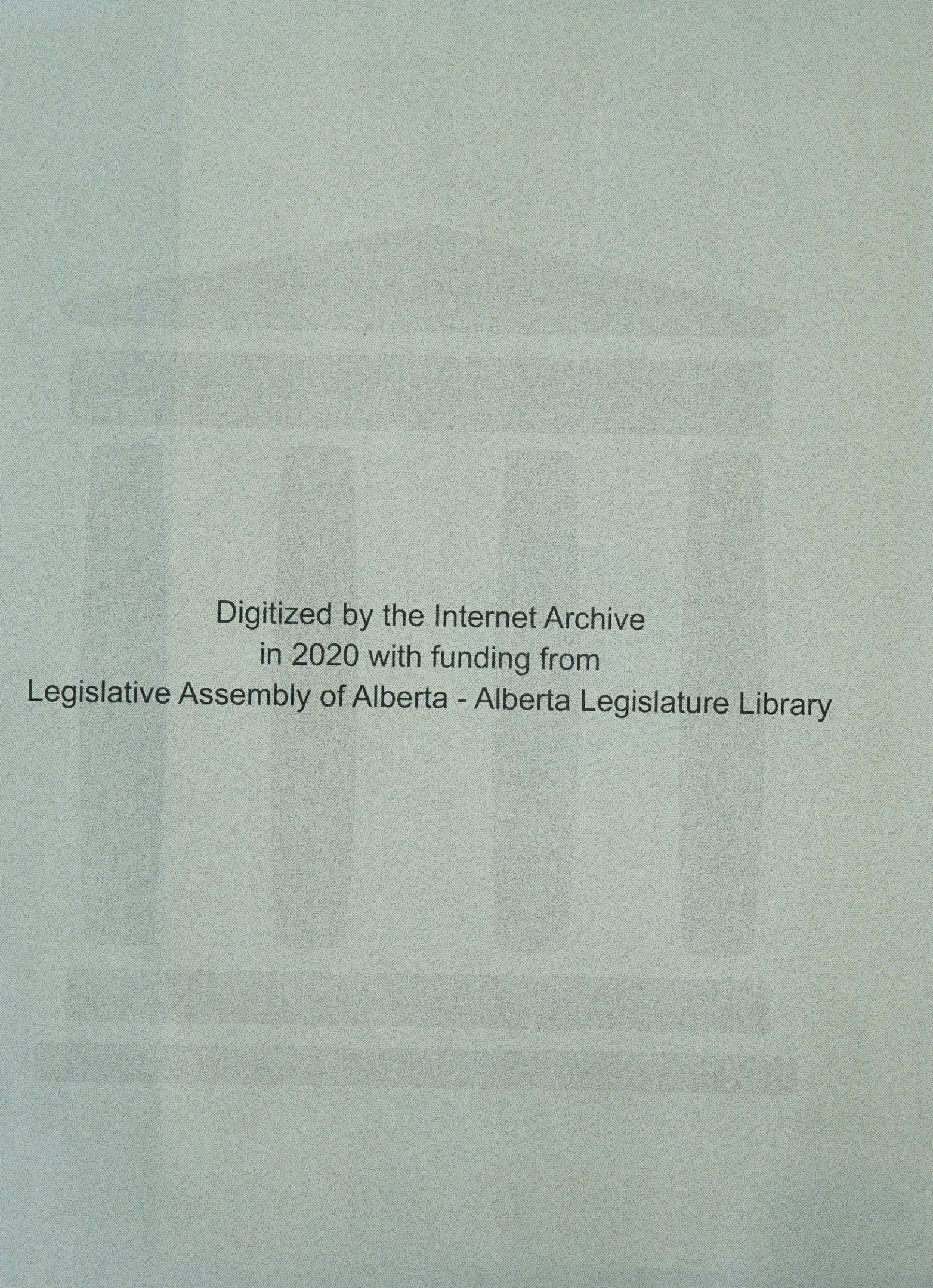
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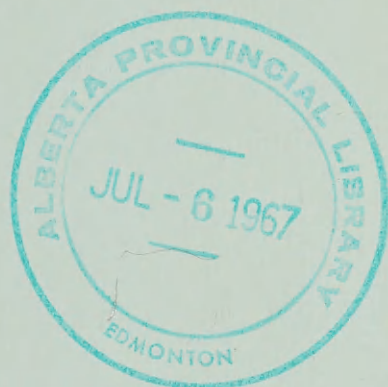
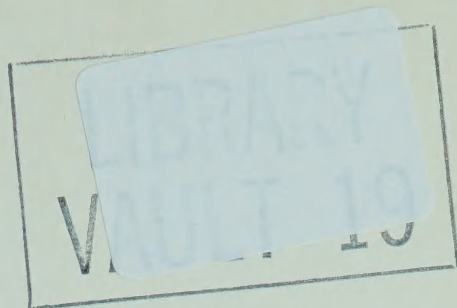


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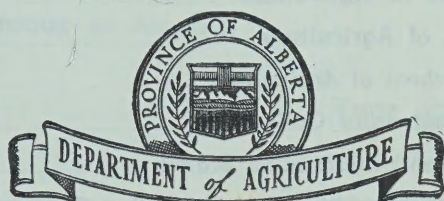


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ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1961



PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA
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1962

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Report of the Deputy Minister

1961

HONOURABLE J. PERCY PAGE

Minister of Agriculture

DEPARTMENT OF AGRICULTURE

To HIS HONOUR,

J. PERCY PAGE,

Lieutenant Governor of the Province of Alberta

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1961.

I have the honour to be, Sir,

Your obedient servant,

L. C. HALMRAST

Minister of Agriculture

DEPARTMENT OF AGRICULTURE

1961

HON. L. C. HALMRAST, Minister of Agriculture

R. M. PUTNAM, Deputy Minister of Agriculture

HEADS OF BRANCHES

A. M. Wilson, Field Crops Commissioner

W. H. T. Mead, Livestock Commission

D. H. McCallum, Dairy Commissioner

R. H. McMillian, Poultry Commissioner

R. W. Gillies, Fur Farm Supervisor

F. L. Grindley, Director of Water Resources

C. J. McAndrews, Colonization Manager

S. S. Graham, Director, Extension Branch

E. E. Ballantyne, V.S., D.V.M., Director, Veterinary Services

J. E. Hawker, Superintendent, Schools of Agriculture and Home Economics

C. L. Usher, Supervisor, 4-H Clubs

E. B. Swindlehurst, Supervisor, Radio and Information Branch

H. W. Gaebel, Secretary-Accountant

G. R. Sterling, Chairman, Land Conservation and Utilization Committee

Arnold J. Lavoie, Provincial Co-ordinator, Alberta Emergency Measures Organization

Dr. G. R. Purnell, Director, Farm Economics Branch

Report of the Deputy Minister

(R. M. Putnam)

The HONOURABLE L. C. HALMRAST,

Minister of Agriculture.

Sir:

I have the honour to submit the Annual Report of the Alberta Department of Agriculture for the year ending December 31, 1961.

Drought conditions seriously affected that section of the province lying south and east of a line from Foremost to Coronation. North of this line the lack of rain reduced crop yields to some extent. Only in the Peace River District and in north-eastern Alberta was rainfall adequate to produce bumper crops. By July 1st it was apparent that south-eastern Alberta farmers would be required to import hay, so policies were designed by the Government of Canada and the Governments of Manitoba, Saskatchewan and Alberta to alleviate the situation. By December 31st 16,505 tons of fodder and 3,630 tons of grain had been moved in Alberta. Fortunately supplies of fodder and feed grains were plentiful in northern Alberta so no trouble was anticipated in filling the requirements.

The live stock industry created another record in 1961 when the cattle population reached 2,855,000 head on June 1st. Swine on farms at December 1st, 1961 were slightly above the previous year's figures.

The dairy industry produced the largest quantity of milk in its history, while poultry production was above that of 1960.

Several events of some importance occurred during the year. In July the Federal Department of Agriculture extended the provisions of the Prairie Farm Rehabilitation Act to all the settled parts of the province. As a result of this action the Alberta Department of Agriculture discontinued the Peace River Farm Water Supply Assistance Policy. Since this policy was established in 1944 assistance in the construction of 2,899 dugouts has been provided.

In August administration of the 4-H Club Program was transferred from the Schools of Agriculture Branch to the Agricultural Extension Service.

During the year the Government purchased a farm west of Ellerslie, consisting of four quarters of land, for the Faculty of Agriculture, University of Alberta. The land was provided to permit the University to expand its research program, especially in live stock, and to compensate the institution for lands that had been taken from the University Farm for the construction of a School for the Deaf and other purposes.

In so far as legislation was concerned, minor amendments only were made in several Acts.

The Department undertook a weather forecasting program in co-operation with the Edmonton office of the Meteorological Service of the Department of Transport during the period from June 15th to September 15th. Mr. B. J. Godwin, from the staff of the Vermilion School of Agriculture, prepared a three-day forecast of weather conditions. This forecast was released on five days per week through 19 news media, including radio stations and daily press. The forecast was designed for the farmers and although few specific comments were obtained, it was considered to be of some value.

In April of this year a three-day conference was held in Winnipeg, at the instigation of the Minister of Agriculture for Manitoba, to discuss the establishment of an Agricultural Economic Research Institute. Representatives of the Government of Canada, the Provinces, Universities, farm organizations, agro-business and others attended the gathering. Although considerable support for the principle was evident at the conference, the Government did not accept the proposed budget. After two later meetings of Government representatives there was some indication that the proposal might yet be accepted.

Another event of some importance to the agricultural industry of Canada and the Province was the "Resources for Tomorrow" Conference held in Montreal October 23rd to 28th. The Minister of Agriculture and three members of the staff attended this conference. Closely related to the "Resources for Tomorrow" Conference and the development of the agricultural resources was the enactment of the Agricultural Rehabilitation and Development Act (ARDA) by the Government of Canada. Under this Act the Federal Government was authorized to co-operate with the provinces in the development of the agricultural resources. Although no projects were undertaken by the end of the year, plans were well advanced to begin projects in 1962.

Several changes in senior staff occurred. Dr. A. G. Ball, Acting Director of the Farm Economics Branch, resigned in June. His successor, in the person of Dr. Glen R. Purnell, was appointed in December.

Dr. J. B. Linneboe retired as Director of the Dairy Laboratory in December. This position was filled by the promotion of Dr. V. W. Kadis to the post of Director.

Mr. C. S. Brandley resigned as Departmental Solicitor in May and Mr. Alex Weir was named to succeed him in September.

The staff of the Department continues to grow as the Department seeks to meet the demands made upon it. On December 31st total staff numbered 592, of whom 219 were classified as technical and professional personnel.

Details of the activities of all Branches of the Department will be found in the following pages.

May I again express my appreciation for your guidance and counsel during the year. I also wish to thank each member of the staff of the Department for his co-operation and devotion to his task in 1961.

Finally I should like to express on behalf of all the staff of the Department our appreciation to all those individuals, institutions and organizations who have in many ways assisted the Department in carrying forward its programs and policies for the people of the province.

Respectfully submitted,

R. M. PUTNAM,

Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Commissioner
O. G. BRATVOLD, Crop Improvement
L. G. JORGENSEN, Special Crops
W. LOBAY and A. W. GOETTEL, Soils and Weed Control
J. B. GURBA and J. PROCTER, Crop Protection and Pest Control
P. D. McCALLA, Horticulture
P. D. HARGRAVE, Superintendent, Horticultural Station, Brooks
J. W. EDMUNDS, Apiculture
F. S. GODDARD, Special Projects
D. STELFOX, Crop Clinic

Drought conditions pervaded large areas of south-eastern Alberta and rainfall in Central Alberta was well under normal. Not since the dry years of the thirties had the shortage of moisture been so acute. The late summer and fall of 1960 was dry, there was very little winter snow, practically no spring run-off to fill dugouts and sloughs and early spring and summer rain was much below normal. As a consequence crops from Coronation south and east of Range 19 were light and in some cases unharvestable. Pastures and hay crop were even harder hit by the continuous dry hot weather. By early June it was evident to livestock men that the shortage of pasture, winter feed and water would create serious problems if herds were to be maintained. It was equally apparent that cattle numbers had continuously increased during ten years of better crop years and that cutting back and culling was now necessary.

South from a line through Wetaskiwin and Camrose pasture and hay crops were poor. Grain crops too were much below average and in many instances both hay and grain crops were used to supplement pastures. To maintain livestock herds many farmers after salvaging all possible feed found it necessary to move hay from the better crop areas north of Highway 14.

Above average crops were harvested in all areas north from Edmonton except in the settlements around Fort Vermilion. Fortunately hay crops were also good and with pending drought in the South and in Saskatchewan and Manitoba large quantities of hay were harvested. The Peace River area staged a come-back and for the most part excellent crops were harvested.

Although grain crop yields verged on failure in the south-east and in some south-central areas the Province on the whole fared reasonably well and especially when compared with other grain producing areas of Western Canada. Wheat yields were below the long term average of approximately three bushels per acre. The oat and barley crops, although less than in 1960, were still above the long term average. In spite of the drier conditions over the wheat area of southern Alberta, flax crops, most of which was produced in this area, produced exceptionally well and yields were above the long time average. Rape seed

production was also ahead of 1960 both in seeded acres and yield.

The following table gives the area, yield and production of the principal field crops for the years 1960 and 1961.

	Area		Yield per Acre		Production	
	1960 —'000 ac.—	1961	1960 —bu.—	1961	1960 —'000 bu.—	1961
Wheat	5,060	5,304	19.8	18.6	100,000	84,000
Oats	2,730	2,842	40.3	34.8	110,000	105,000
Barley	3,490	3,107	28.7	25.8	100,000	84,000
Fall Rye	80	92	18.8	14.1	1,500	1,300
Spring Rye	20	23	12.5	8.8	250	200
All Rye	100	115	17.5	13.0	1,750	1,500
Flaxseed	600	450	9.3	10.4	5,580	4,700
Mixed Grains	275	316	34.9	30.1	9,600	9,500
Peas, dry	6.2	11.7	13.3	14.9	82	174
—cwt.—						
Potatoes	20.0	20.9	121.5	121.8	2,430	2,545
—lb.—						
Mustard Seed	115.0	75.0	435	235	50,000	17,600
Rapeseed	180.0	266.0	735	940	132,000	250,000
Sunflower Seed	6.5	4.0	1,050	811	6,800	3,200
—tons—						
Tame Hay	2,200.0	2,340.0	1.45	1.28	3,200	3,000
Sugar Beets	41.4	39.7	13.19	13.57	546	539

The sales of grain to new markets, including Red China, combined with below average yields in 1960 and only a 50% crop in Western Canada in 1961 permitted the delivery of practically all surplus farm stored grain to elevators. With the local demand for grain by livestock feeders continuing at a high level, prices of coarse grains and feed wheat rose sharply. The grain surpluses over a ten-year period that had encouraged feed lots and livestock finishing had disappeared and the higher priced feeds induced the smaller operators to sell both their feeder cattle and grains. The Panic selling of stock which in early July seemed almost inevitable was averted by freight assistance policies on hay and grain and by steadily increased prices of stock due largely to the United States demand for feeder cattle.

Early in July the Departments of Agriculture in Alberta, Saskatchewan and Manitoba in conjunction with the Government of Canada established policies of freight assistance for the movement of fodder **into designated drought areas of the Provinces.**

CROP IMPROVEMENT

Crop Improvement Demonstration Policy

Seven Crop Improvement Projects made up the Policy. Each project was designed to aid District Agriculturists in demonstrating the value of using recommended kinds and varieties of crops, the proper use of fertilizers and the use of improved cultural practices.

Project A—Forage Seed Production

This Project was designed to promote forage seed production in areas where this type of enterprise increased the farm income.

Fifty-four applications were received and a total of 2,560 pounds of seed used in this Project.

Project B—Pasture Improvement

The Project was continued to increase farmer interest in the need for better pastures. Two hundred and seventy applications were submitted and 33,427 pounds of seed distributed. In addition, 8,000 pounds of fertilizer was distributed.

Project C—Balanced Farming

This Project was used to demonstrate to farmers the value of adapting suitable crop rotations. Assistance by providing forage seed was given in the second year of rotation, at a discount of 25 percent for 1/6 of the acreage up to a maximum of 25 acres. There were twenty-four applications and a total of 5,080 pounds of forage seed was distributed.

Project D—Field Demonstrations, Crops and Fertilizers

Under this Project seed and fertilizer were supplied directly to the District Agriculturist without cost for their use in demonstrating the value of different kinds and varieties of field crops, and where advisable, the use of fertilizers on these crops. A total of 6,000 pounds of fertilizer and 910 pounds of forage seed were supplied.

Project E—Crop Variety Demonstration Plots

This Project was used by District Agriculturists to demonstrate varietal difference in cereals and the growth habits of forage crops. Seed for rod row plots was supplied free of charge.

Project F—Soil and Crop Improvement on Grey-wooded Soils

This Project was provided to demonstrate to farmers the importance of forage crops and fertilizers in the successful management of grey-wooded soils. A total of 43,076 pounds of seed was distributed to 117 applicants.

Project G—New Variety or Species Demonstration Project

This Project was first introduced in 1961 and was used to demonstrate the value of new varieties or species of forage crops. Forty-four farmers were provided with 1,915 pounds of seed.

Forage Crops Seed Production

A noteworthy feature of the 1961 crop was the very high average quality of forage seed. Ideal moisture conditions in the Peace River area resulted in a large crop of high quality fescue. Prices of twelve to fifteen cents per pound were an improvement over 1960 when fescue dropped to a low of seven cents per pound. Prices for other grasses and most legumes also showed some increase. The brome crop was smaller due to drought conditions in the Coronation district, one of the major brome producing areas of the province.

The following figures give the seed production of the most important forage crops in the years 1956 to 1960 inclusive. The 1961 figures are preliminary estimates only.

	1956	1957	1958	1959	1960	1961
	Thousand Pounds					
Alfalfa	625	200	1,800	1,427	1,880	2,000
Sweet Clover	6,500	3,500	5,000	2,330	750	6,000
Red Clover	1,200	2,500	4,835	2,622	4,250	4,000
Alsike	3,500	4,000	10,000	4,647	9,225	8,500
Timothy	200	250	1,000	1,154	840	300
Crested Wheat		130	475	750	736	382
Brome	4,000	2,250	5,000	7,758	4,000	1,350
Creeping Red Fescue	4,500	5,000	13,250	11,878	12,100	11,000

Production of Registered Seed

Cereals and Flax

The following table summarizes the estimated yields in bushels of cereals and flax inspected for registration and certification.

	1957	1958	1959	1960	1961
	Estimated Yield (in thousands)				
Wheat	3,000	3,830	3,477	2,802	1,301
Oats	1,600	839	987	1,229	1,209
Barley	1,300	1,803	1,079	597	481
Flax	340	722	344	210	101

Quality of pedigree seed was excellent in 1961.

Forage Seed

The table below is a summary of reported acreage of grass and legume crops inspected for registration or certification:

	1957	1958	1959	1960	1961
Brome (Parkland)	20		10	10	10
(Lincoln)			215	235	80
(Manchar)			38	38	38
Creeping Red Fescue (Olds)	71	30	262	877	881
(Duraturf)			346	259	
Crested Wheatgrass (Summit)	275	1,059	977	860	732
(Nordan)		135	178	638 1/4	1,238
(Fairway)		726	501	343	50
Timothy (Climax)	612	2,563	9,006	3,145	1,769
Alfalfa (Vernal)	48	138	297	262	251
(Rambler)	23	325	438	531	818
(Grimm)		22		35	110
(Ladak)	35	5		75	
Red Clover (Altaswede)	17		57	21	15
(LaSalle)	369	782	261	469	597
Sweet Clover (Cumino)			33 1/2		362
Kentucky Bluegrass (Merion)	140	502	166	597	164
Orchard Grass (Chinook)				73	205

Distribution of Forage Seed

During the spring of 1961 the Field Crops Branch distributed 94,500 pounds of Registered No. 1 Rambler alfalfa seed, part of which it had multiplied in the United States the previous year. An effort was made to establish a new acreage in the United States but this failed with the result that no production was available from this source in 1961.

As in previous years the Field Crops Branch co-operated with the Canadian Forage Seeds Project in the distribution and multiplication of Breeder and Foundation forage seed. The following quantities were distributed:

Breeder:

Sweet Clover (Cumino)	60 lbs.
Alfalfa (Rambler)	50 lbs.
Alfalfa (Beaver)	17 lbs.
Red Clover (LaSalle)	350 lbs.
Red Clover (Altaswede) .....	.....
Reed Canary Grass (Frontier) .....	.....
Brome (Carlton)	50 lbs.
Timothy (Climax)	140 lbs.
Fescue (Olds)	50 lbs.

Foundation:

Alfalfa (Rambler)	1,580 lbs.
Creeping Red Fescue (Olds)	125 lbs.
Red Clover (LaSalle)	1,000 lbs.
Crested Wheatgrass (Nordan)	650 lbs.
Streambank Wheatgrass (Sodar)	75 lbs.
Timothy (Climax)	1,250 lbs.
Red Fescue (Penlawn) .....	.....
Sweet Clover (Cumino) .....	.....
Orchard Grass (Chinook)	425 lbs.

The Alberta Varietal Zonation Committee

This Committee continued its function as in previous years. The annual meeting was held in December when the following changes were made in the cereal recommendations: Canthatch was added as a recommended spring wheat variety in all Zones. Winalta was added to the list of winter wheat.

Compana was deleted from Zone 2C; Harlan and Wolfe from the irrigated areas. Husky was added to Zone 4B and Parkland to Zone 3C. Jubilee and Keystone were added to the recommended list for the irrigated areas.

Glen was added to all of Zones 3 and 4.

Publication No. 91 "Varieties of Grain for Alberta" was revised.

Forage Crops Advisory Committee

This Committee held its annual meeting in December at which research, plant breeding, extension and promotion of forage crops was discussed.

The Seed Dealers Act

Twenty-seven licenses were issued to Seed Dealers operating in the Province.

The Seed Control Areas Act

Two seed control areas were in operation within the Province, namely, the Hays Seed Control Area and the Wanham Seed Control Area.

Other Activities:

Numerous inquiries re all phases of crop production were answered by correspondence, telephone or office visits. Several talks were given on radio and at Agricultural Short Courses.

A Pasture Improvement Program was continued in the Edmonton Milk Shed and 44 farms were entered. This program was designed to focus attention on the need for more grassland cropping and better management practices.

Other activities included judging at Seed Fairs and 4-H Achievement Days, preparing articles for Agricultural Notes and assisting in the preparation and revision of pamphlets.

International Seed Shows

The Department continued its policy of assisting exhibitors at the Royal Agricultural Winter Fair, Toronto. The Field Crops Branch assembled and shipped exhibits to the Show paying the shipping costs both ways. In addition to supervising the exhibits at the Show all prize monies won by Albertans at the Royal were increased by 50%. A special honorarium of \$25.00 was paid for each first prize in the classes for wheat, oats, barley, rye, flax, alfalfa, alsike, red clover, sweet clover, brome, fescue, timothy, crested wheatgrass, field beans, russet (netted gem) seed potatoes, potatoes in the Vegetable and Cooking classes and 4-H Club exhibits. Such honoraria was increased to \$100.00 for championships won with exhibits of wheat, oats, barley, rye and forage seeds.

The names of the 1961 winners at the Toronto Royal Winter Fair were as follows:

World Championship:

Wheat (Durum)	Ralph L. Erdman	Lethbridge
---------------------	-----------------------	------------

First Prizes:

Alsike clover	Herman Banzer	Bonanza
Fescue	Bert Dixon	Sexsmith
Wheat (Durum)	Ralph L. Erdman	Lethbridge
Potatoes (Netted Gem)	T. Fujimoto & Sons	Rainier
Sweet clover	W. Guydash	Spirit River
Wheat (Hard Red Spring)	George Luco	Lethbridge
Alfalfa	Joseph Lundblad	Valleyview
Brome Grass	Alex Matheson	Hythe
Oats	Tom Rhatigan	South Edmonton
Oats (4-H Member)	Paul Sawchuk	Waskatenau
Flax (4-H Member)	Ralph Seeley	Arrowwood
Barley	Miss Bridgie Wengzynowski	Hythe
Crested Wheatgrass	Varno C. Westersund	Blackie

Fodder and Feed Grain Assistance Policy

The Federal-Provincial Policy for the sharing of rail freight and partial truck costs on fodder and feed grain went into effect on July 21st, 1961. Severe drought throughout most of east-central and south-eastern Alberta made it evident that many farmers and ranchers would be forced to purchase feed supplies and, in many cases, transport the feed over relatively long distances.

The assistance covered movement of fodder by rail, shared equally by the Railways, Government of Canada and the Government of Alberta. Assistance on truck movement of fodder was shared equally by the Government of Canada and the Government of Alberta and provided for repayment to farmers of 75% of the freight when moved by commercial carrier, up to a maximum of \$12.00 per ton; and a repayment of 4c per ton-mile on one-way loaded travel in excess of 25 miles when transported by farm truck, up to a maximum of \$12.00 per ton. The Federal Government did not participate in freight assistance on grain.

Assistance was also provided on the transport of haying equipment. Farmers in the drought area who moved equipment to areas of surplus hay were paid 25c per mile one-way travel on mileage in excess of 25 miles. Provision was made to assist in the movement of livestock out of the drought area to areas of surplus feed, in the amount of 1c per mile per head for calves and sheep and 2c per mile per head for mature cattle based on one-way mileage in excess of the first 25 miles.

The area declared eligible for the foregoing assistance was as follows:

Improvement Districts 11, 22 and 42
 Special Areas 2 and 3
 County of Forty Mile No. 8
 County of Warner No. 5 (East of Range 15)
 County of Vulcan No. 2 (East of Range 23)
 County of Wheatland No. 16 (East of Range 23)
 M.D. of Starland No. 47 (East of Range 19)
 M.D. of Acadia Valley
 M.D. of Paintearth—Twps. 35, 36 & 37 (East of Range 14)
 M.D. of Camrose—Twp. 44, Rge. 22
 Twps. 42 & 43, Rge. 19 to 21 inclusive
 Twps. 41, Rge. 20 & 21.

Total assistance paid out to farmers during 1961 was \$87,061.02 on 16,505 tons of fodder and 3,630 tons of grain.

SPECIAL CROPS

Acreage of Special Crops in Alberta:

	1960	1961
Potatoes	13,500 acres	14,000 acres
Onions	300	200
Corn	600	600
Cabbage	350	300
Cucumbers	350	350
Carrots	300	300
Turnips	350	400
Sunflowers	8,000	4,000
Beans	400	200

Potatoes

Yield per acre was 150 cwts. This average yield was determined by contacts with commercial growers, and substantiated by a special survey of all commercial potato growers by the D.B.S. The average acreage per grower for the province was 35 acres. However, 10% of the potato growers had over 100 acres and this 10% produced 50% of the total potato production.

The marketable yield was higher this year than 1960. Better irrigation practices resulted in a better marketable percentage. Market was good with heavy shipments to Manitoba and Saskatchewan.

The formation of the Alberta Potato Growers Association had a stabilizing influence on the potato growers.

The new potato processing plant, Sun-Alta Potato Processors, will be in operation in January, 1962. Next year this plant will use approximately 3,000 acres of potatoes.

Onions

Most of the onions were grown in the Medicine Hat and Bow Island areas. Hail hit the Bow Island area again this year and ruined the onion crop. Onions were good at Medicine Hat. The supply was limited with prices very good.

Corn

The corn crop this year was good but prices very poor. It was necessary that local corn was handled properly before being put on the market to compete with imports.

The remainder of the vegetable crops occupied approximately the same acreage as in 1960. A larger acreage of these crops will be grown when proper grading and marketing facilities are available.

Other Activities

The Special Crops Supervisor addressed 30 public meetings, mostly in the irrigated areas. He made 53 calls during the course of the year and 35 business calls on topics relating to Special Crops. Six radio talks were given and four appearances were made on T.V.

Three sunflower field days were held in Southern Alberta with approximately 100 farmers attending these three field days. One potato field day was held with approximately 150 in attendance.

The Special Crops Supervisor spoke at five short courses during the winter months.

Two fertilizer demonstration plots were carried out at Rosemary in 1961. Eight different fertilizer formulations were tested. The purpose of the trials was to determine what fertilizer formulations should be used to produce a top quality potato for chipping. Similarly one variety trial with 19 varieties was laid out to determine which varieties were the best for making potato chips.

One herbicide trial was carried out at Bow Island. It was hoped to find a chemical that would control Russian Thistle in onions.

An experiment in growing and marketing carrots on a commercial scale was carried out this year. Carrots were grown at the Horticultural Station, cooled, packaged and placed on the Calgary market.

A survey of wholesale and retail markets proved that local produce, handled and packaged properly, was superior in quality and appearance to any imported produce.

SOILS AND WEED CONTROL

Weeds and Weed Control

General:

Moisture conditions in the spring were generally fair to good throughout the Province, but poor on stubble lands in the south. May continued cool and damp in the central and northern part, thus delayed seeding and the growth of perennial crops. This cool weather encouraged several germinations of wild oats. By early and mid-June moisture conditions in the Province became serious and crops deteriorated while deep-rooted perennial weeds were becoming established. Pastures were poor to very poor; in the north central areas in the province and hawk-beard infestations appeared extensive in hay and pasture fields. However, summerfallowing operations by this time were well advanced and chemical spraying for weed control had started. Due to drought and uncertainty of crops, spraying was sporadic and not as extensive as in 1960.

The harvest was earlier than usual; in many areas well underway by mid-August. This early harvest and good fall weather gave most farmers ample opportunity for satisfactory fall cultivation of summerfallow and stubble fields.

Weed Surveys

(a) A specific survey was carried out this fall to give some indication of the extent of perennial Sow Thistle and Canada Thistle infestations in Alberta. Of 45 municipalities reporting, covering 20,632,000 cultivated acres, the following figures were obtained:

		Infestation (Acres)		
		Light	Medium	Heavy
Perennial Sow Thistle	3,078,000	2,647,000	951,000	
Canada Thistle	3,729,000	1,716,000	2,750,000	

(b) Survey reports obtained from 51 Agricultural Service Boards indicate the following status of infestation of the 5 bad weeds. The figures in brackets are those for 1960 for comparison purposes:

Weed	Farms	Acres	Areas Heavily Infested
Hoary Cress	1145 (1109)	7674 (7165)	Lethbridge, Cardston, Calgary, Strathmore.
Russian Knapweed ...	307 (268)	433 (297)	Lethbridge, Taber, Pincher Creek, Claresholm.
Field Bindweed	487 (429)	4320 (2928)	Cardston, Lethbridge, Taber.
Toadflax	7638 (6763)	37287 (32257)	Throughout the province.
Leafy Spurge	252 (248)	4535 (4330)	Cardston, Camrose, Pincher Creek, Provost.

(c) Reports from Field Supervisors and Weed Inspectors indicate that Hemp Nettle and Hawksbeard appeared to increase considerably in certain areas. The increase of thistle seemed general throughout the province. Toadflax was kept in check in 1961.

Weed Identification Service

With the establishment of the Field Crops Clinic all of the specimens submitted to this office were turned over to the Clinic. For details see the section under "Crop Clinic."

Forty-three (43) weed specimens were identified and control measures given while on field duty and meetings.

Weed Inspection and Enforcement

This Branch employed 11 weed inspectors in Improvement Districts to enforce the Noxious Weeds Act. Two provincial weed supervisors assisted municipal Field Supervisors and Weed Inspectors with weed control programs. The Supervisors were located at Edmonton and Vermilion and were employed from May to September. Fifty-two (52) Field Supervisors and 78 Inspectors were employed by municipalities. A total of 2,374 "Notices to Destroy Noxious Weeds" were issued on 52,758 acres of land. There was also 31,622 acres prohibited to seeding as compared to 27,086 acres in 1960. Seven (7) court cases were held under the Noxious Weeds Act.

Chemical Weed Control

(a) Soil Sterilants

The policy of supplying soil sterilants to municipalities at cost was continued. In 43 municipalities this cost was shared equally with the Department, Municipality and the farmer for the control of the five persistent weeds. For the control of these perennials on roads in 46 municipalities the cost of sterilants was shared equally with the municipality.

There was a total of 450,991 lb. of sterilants used. The kind and amount are shown below with 1956-1961 totals for comparison.

	1956	1957	1958	1959	1960	1961
Sodium Chlorate	379,718	190,449	222,656	229,040	243,040	254,688
D.B. Granular	7,050	18,700	57,450	75,340	85,300	94,200
Polybor Chlorate	34,550	20,090	35,265	90,150	111,300	88,403
Conc. Borascu			24,650	35,700	8,400	11,700
Monuron					2,000	
Benzabor						2,000

These figures do not include sterilants which were purchased directly by farmers from the trade.

(b) Selective Herbicides

There were 6,583,000 acres of field crops treated with selective herbicides. This is about a 7.6% decrease over last year. In addition, 17,873 miles of road were sprayed for weeds and 4,374 miles for brush control. Approximately 1,200 miles of irrigation ditch banks were treated. The following table shows the total acreage treated each year during the past five years:

	1957	1958	1959	1960	1961
Acres treated	4,067,000	5,307,000	6,216,000	7,123,000	6,583,000

There were 27 municipalities that handled 2,4-D, MCPA and selective herbicides for sale to farmers at cost. The other municipalities made arrangements for the trade to handle the chemical supply.

Weed Control Trials and Demonstrations

Approximately 104 new weed control demonstrations were established, the largest number still being Avadex and Carbyne

for the control of wild oats in crops. Plant material from many of these trials was returned to this Division for threshing. The results were compiled and returned to the District Agriculturists and Field Supervisors for their use. Other demonstrations included: (1) the use of propionics for chickweed control in lawns and gardens (2) low volatile 2,4-D ester preparations for brush control (during the active and dormant stages), (3) special chemical preparations for Tartary Buckwheat control, and (4) ATA, Dalapon and Monuron for couch grass control.

Additional sterilant plots were set out at the soil sterilant project site at Millet, which originated by the joint effort of the soil and weed control division, Experimental Farm (Lacombe) and the County of Wetaskiwin Service Board. The new plots set out this year included treatments with Atrazine and other registered preparations such as "Calmix" Vegetation Killer, etc. Approximately 2 acres of land is presently involved.

A rather extensive chemical brush control demonstration was initiated at Rocky Mountain House by this Division and the I.D. 58 and 65 Service Board. The demonstrations included the use of aircraft, ground spraying equipment, tree injector, mist blower and girdling as methods of brush control. This project is intended to run for several years with retreatments and an assessment of results obtained each year.

Two (2) trials were also set out in the Barrhead area using a Brillion seeder and fertilizers as possible superior methods for controlling Hawksbeard. This is expected to be continued.

Weed Control with Forage Crops

Project 2 under the provincial weed control program was designed to demonstrate and implement grasses and legumes as a method of weed control. Under this project the Department shared equally with the farmer the cost of forage seed for the affected area not to exceed 20 acres with extension to 30 acres in special cases. There is a limit of 15 applications per district and must be approved by local agricultural authorities.

The following table indicates the extent of participation by the Districts and the quantity of forage used last year. Figures for 1957 - 1961 are included for comparison purposes:

	1957	1958	1959	1960	1961
No. D.A. Districts participating .....	.....	14	19	23	20
No. of applications .....	.....	30	146	200	315
Amount of seed supplied	4,491	15,718	35,595	53,447	65,315
Acreage covered .....	.....	1,309	2,909	4,454	5,882

Weeds on Crown Lands

Soil sterilants, grass seed and 2,4-D were made available on a limited scale for use on reported weed infested Crown Lands. A total of 600 lb. soil sterilants and a supply of 2,4-D was distributed to I.D. Weed Inspectors under this policy.

Roadside Seeding and Spraying

(a) Alberta Highways

This Branch continued the policy of seeding Government Highways, using its own equipment and personnel. A total of

31,100 lb. of seed was used on 400 miles of road (both sides). In addition, 6,900 lb. of seed was shipped to the Department of Highways for special seeding projects such as "fill" and "cut" banks, median strips, soil erosion, bridge approaches.

The roadside seeding program was reduced due to unfavourable fall weather conditions. The rate of seeding was increased to about 77 lb. per mile complete. The basic mix of grass seed was Brome, Fescue and Crested Wheat for the drier areas. Alsike, White Dutch clover and Kentucky blue were substituted for crested wheat in wetter areas and along certain stretches of the divided highway.

The immediate results of the roadside seeding program were not as satisfactory as in previous years due to lack of moisture and the extreme heat experienced in the summer. It has been found necessary to wait for 2 or 3 years, however, to make a good assessment of the results obtained.

(b) **Municipal Roads:**

Suitable forage seed mixtures for seeding demonstration areas on newly constructed back-sloped roads were supplied to municipalities where Service Boards are operative. Sufficient seed to plant four miles of road per division was the maximum allowable. The following table indicates the amount of seed supplied by the Branch and the total number of miles seeded. This table also shows the extent of mowing and spraying done by the municipalities. Years 1955 - 1960 inclusive are included to indicate the increase in these projects:

Year	Lb. of Seed Supplied	No. Miles Seeded	No. Miles Mowed	No. Miles Sprayed
1955	30,408	1,041	7,500	6,500
1956	28,500	1,813	12,018	12,486
1957	32,785	1,624	11,817	14,890
1958	37,850	2,216	20,083	17,220
1959	51,800	1,883	23,011	17,837
1960	52,553	2,708	25,074	17,873
1961	53,525	2,282	24,893	19,979

Alberta Advisory Weed Committee:

The Committee held an annual meeting in early December. Major items under discussion were:

- (a) the residue problems,
- (b) amendments to the Noxious Weeds Act,
- (c) weed research and weed extension problems,
- (d) weed tours,
- (e) weed surveys, and
- (f) The Field Crops Clinic.

Arrangements were made for the preparation of certain weed bulletins and revising others. The Committee approved for Alberta the weed control recommendations of the National Weed Committee (Western Section) following their meeting in November, 1961.

Agricultural Service Boards:

There was one new Agricultural Service Board formed, bringing the total in the province to 52. The new Service Board takes in the areas of I.D. 11 and 22. Provincial weed work activities and other related activities are closely associated with Service Boards.

Under the Agricultural Service Board Act, weed infested or otherwise debilitated land can be placed under supervision or reclamation. This year the Boards placed 25 parcels of land under supervision, 194 parcels were carried under supervision from previous years and 42 were released. Only one new parcel was placed under reclamation, 35 were carried from the previous year, and 4 were released.

Agricultural Service Boards held 299 Field Days, 46 featured weed control. The purpose of these Field Days is to acquaint Board members, Councillors and Ratepayers with the various weed, soil and other agricultural problems and how the Boards are dealing with them. Members of this Division spoke at 18 short courses and meetings related to weed control.

Service Board Agreements:

Maximum grants made available to municipalities in 1961 by the authority of the Agricultural Service Board Act for various agricultural projects, etc., amounted to \$3,800.00 per district. In addition, there were grants in (a) Brucellosis Control, (b) an average of \$350.00 worth of grass seed supplied to each municipality, (c) grants available for construction of 4 municipal seed cleaning plants, and (4) grants towards the purchase of 3 pest control sprayers.

Soil Conservation**General**

The winter of 1960 - 61 was mild, snowfall was light and disappeared early. In the south, where the land was bare, most of the winter, some soil drifting occurred. There was little or no run-off this spring which resulted in water shortages in sloughs and dugouts. Dry conditions throughout central and northern areas this fall left fallow fields subject to wind and water erosion.

Thirty-one (31) out of 51 municipalities reported some wind damage on an estimated 1,790 parcels of land and 25 municipalities reported water erosion on 775 parcels. Only damage of significant concern to the farmers was recorded. This was a slight increase over last year.

District Agriculturists and Field Supervisors in co-operation with this Branch held 82 soil conservation demonstrations which included seeding down of eroded land and gully filling.

Soil Conservation and Reclamation**(a) Project 1**

This project was established to assist District Agriculturists and Agricultural Service Boards in promoting conservation and

reclamation of land through the use of forage crops and fertilizers. Each Board is limited to 15 applications per year, each application was limited to 20 acres and in some cases 30 acres. The following table shows the extent to which this project was used from 1958 to 1961:

	1958	1959	1960	1961
No. of Demonstrations	41	186	256	264
No. of D.A. Areas participating	17	23	28	27
Total amount of forage seed (lb.)	8,956	37,238	54,654	66,178
Total amount of fertilizer	0	2,000	5,880	22,680
Total acreage covered .....	.....	.....	.....	6,316

(b) Save the Soil Campaign

"Save the Soil" competitions were carried out in the three municipal districts within the Edmonton area, namely Sturgeon River, Strathcona and Stony Plain. There were 35 farmers participating. Seven (7) winners received certificates of high achievement in their soil management program at the Agricultural Short Course at Edmonton sponsored by the Edmonton Chamber of Commerce and the Department of Agriculture. A number of municipalities and Improvement Districts in the Peace River area also conducted a similar "Campaign" with trophies and certificates awarded to three winners at a special meeting for this purpose.

A new competition was organized this year in the Bonnyville area with fair interest shown.

Soil Fertility

There were 29 fertilizer demonstrations set out this year in co-operation with Service Boards. About 5,000 lb. of fertilizer, mostly supplied by the trade, was used. Arrangements were made by this Branch to thresh about 220 grain samples from the plots; the results were tabulated and such information was returned to the District Agriculturists and the co-operating farmers. Observations and results were reported to the annual meeting of the Alberta Advisory Fertilizer Committee.

The use of commercial fertilizer increased by 30.1% over last year. It was interesting to note that in the last two years the increase has been by 52.7%. Figures for the amounts used during the past five years are as follows:

	1957	1958	1959	1960	1961
Amount used (tons)	38,337	47,952	65,185	79,878	104,097

Miscellaneous

(1) The large soil conservation display was revised and displayed at the Calgary Seed Show and the Vegreville and Wetaskiwin Fairs.

(2) Arrangements were completed for the Field Supervisors to meet at Edmonton in November, for their Association meeting. Following this session they also attended a 2-day Western Canadian Weed Control Conference. Regional Service Board meetings were also organized by this Division and held during the winter at Morinville, Two Hills, Camrose, Calgary, Claresholm and Spirit River.

(3) Special weed meetings dealing with extension and regulatory matters were held at Camrose and Grande Prairie at the beginning of the weed inspection season.

(4) The Supervisor and Assistant Supervisor of Soils and Weed Control attended 45 Agricultural Service Board meetings; made 70 field trips, went on 8 field tours and spoke at 12 Agricultural Short Courses and other Special meetings.

(5) Sixteen (16) radio talks and 32 press releases were written for the Radio and Information Branch on timely soils and weed control topics.

(6) The Western Canadian Weed Control Conference was organized and held at Edmonton with this Division actively participating. There were 257 persons registered. Active part was also taken at the Weed Society of America Conference held at St. Louis, Missouri, December 11 - 14 inclusive.

(7) A special one-day weed tour was organized in July covering special weed projects at Edmonton, Leduc, Millet, Wetaskiwin and Lacombe. Thirty-nine persons were present.

(8) A number of publications on weeds were revised and printed. The "Fertilizer Recommendations for Alberta" Leaflet No. 70 was completely revised and 12,000 copies printed for distribution.

(9) Special releases on timely topics concerning weeds and soils were circulated to all field personnel.

(10) The Supervisor of Soils and Weed Control acts as Secretary to the Alberta Advisory Weed Committee, Fertilizer Advisory Committee, and the Land Utilization Committee.

CROP PROTECTION AND PEST CONTROL

Crop Pests

Grasshoppers:

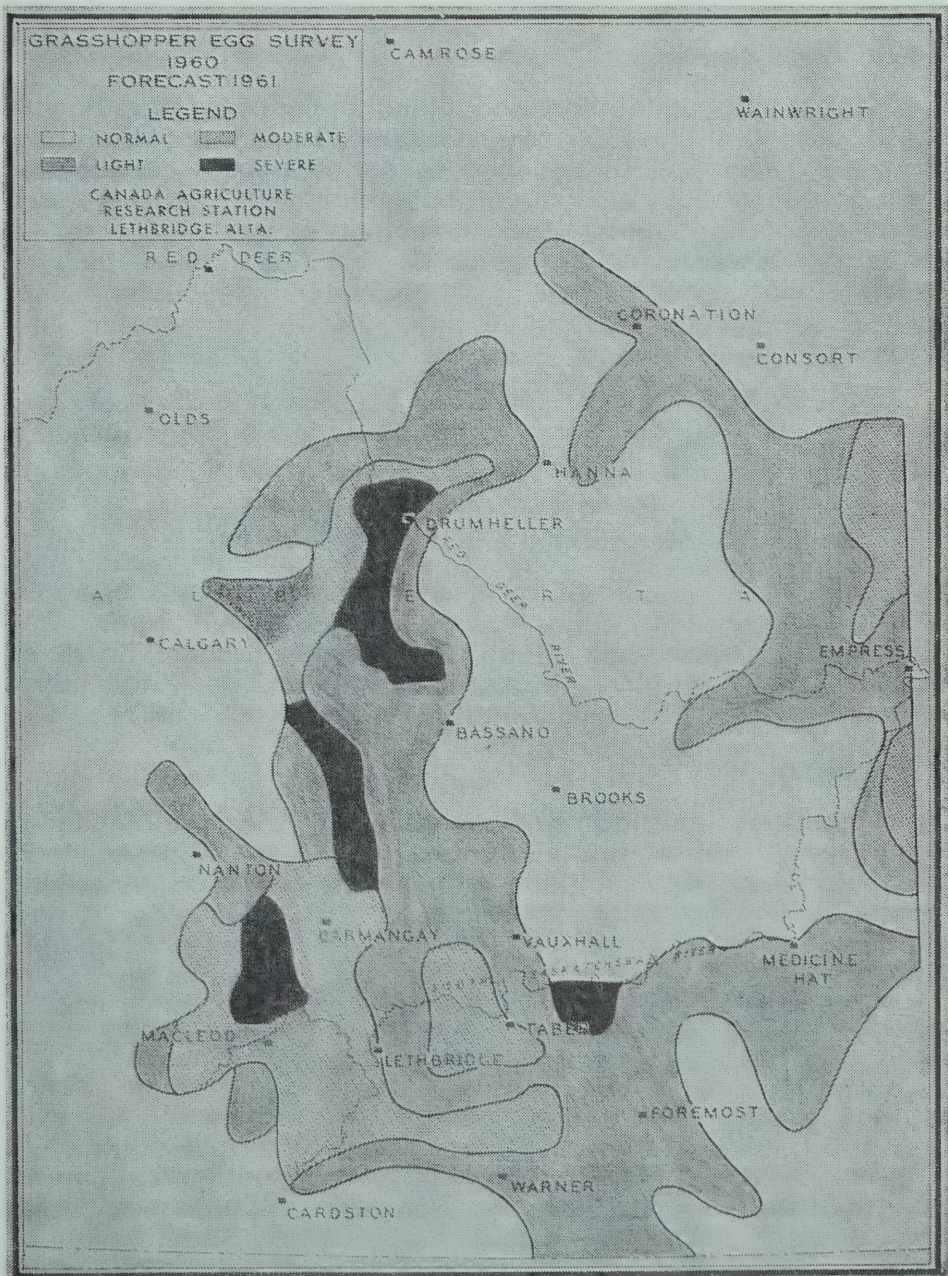
The infested area in southern Alberta increased by 80% over 1960, covering 12 million acres compared to 6.8 million acres in 1960. For the first time in 10 years, severe infestations occurred. The accompanying map shows the area and the relative intensity of grasshoppers. Of the three major pest species, the migratory grasshopper was most prevalent throughout the south. The clear-winged species was dominant in the area north of the Bow River.

Cool weather in early May delayed hatching but the abnormal, hot, dry weather of late May and early June resulted in a rapid hatch, completed early in June. Flying adults were seen by June 20. Hoppers moved into crops throughout the south while crops and grass were scarcely out of the ground. The sudden demand for widespread control resulted in serious shortages of insecticides in Canada and the U.S.A. To cope with the situation, supplies of Dieldrin were shipped in from every available source, with 6,000 gallons air-lifted from Toronto to Lethbridge. Two extra Fieldmen handled Dieldrin distribution out of Calgary and Lethbridge. Much border damage occurred

but timely spraying resulted in effective control in the main crop.

Under the grasshopper policy, the Department distributed Aldrin and Dieldrin insecticides at cost, less shipping and handling charges, through municipal and district offices. The following table shows the 1961 situation and control program with 1958 - 60 data for comparison purposes:

	1958	1959	1960	1961
Acres Land Infested	3,110,000	4,150,000	6,800,000	12,000,000
Acres Crop Menaced	150,000	500,000	900,000	1,700,000
Acres Crop Destroyed	200	500	4,000	20,000
Lb. Tech. Aldrin Used	4,250	240	100	60
Lb. Tech. Dieldrin Used	70	10,750	10,140	63,690
Acres Sprayed	35,500	173,800	163,000	1,019,500



The 1961 grasshopper policy, forecast and map were printed and distributed to municipal and district offices and other concerned agencies. Control information was distributed by Publication 145 "Grasshopper Control in Alberta" and Publication 139 "Chemical Control of Insect Pests"—1961," the latter being revised. Special mimeograph "Grasshopper Control on Forage and Pasture" was revised and distributed, to deal with pesticide residues in milk and animal products. *The 1962 forecast, prepared by the Lethbridge Research Station, predicts a 30% increase in the infested area, with a very severe situation in the Drumheller area. *Five hundred gallons Malathion were stocked for use on hay and pasture and a special circular on Malathion use was distributed. Six insecticides were field tested for effectiveness and cost in a continuing endeavour to minimize the residue problem.

Wheat Stem Sawfly

The sawfly population and damage increased due to dry conditions and reduced use of resistant wheat varieties in infested areas. Chinook and Rescue wheat were grown on an estimated 7.9% of the total wheat acreage but on only 18% of the wheat acreage of south-eastern Alberta. Damage of over 30% occurred in some wheat fields, indicating the need for greater use of resistant varieties or crops.

Cutworms

Red Backed Cutworm damage was considerably reduced from the 1957 - 60 period and confined to a few fields in north-central Alberta and to gardens in various parts.

Army Cutworm developed early. Damage was reduced from 1960 and confined to flax and mustard fields of southern Alberta.

Pale Western Cutworm increased considerably in the prairie region and chemical spraying was done on some fields. The 1962 forecast, prepared by the Lethbridge Research Station, indicating further increase and listing summerfallow control measures, was distributed to municipal and district offices.

Wireworms

Population and damage remained low, except on farms where seed treatment was discontinued in heavier infested areas. Root and tuber crops such as potatoes were damaged in varying amounts. Band or seed row treatment with insecticides proved effective and economical for higher priced crops. During 1961 more insecticide seed treatment was used on farms as shown by higher sales figures. Municipal seed cleaning plants treated 582,000 bushels for wireworm control as compared to 312,200 bushels in 1960 or 7.5% of total seed cleaned.

Say's Grainbug

Population increased markedly in southern Alberta, especially in the Taber-Medicine Hat area. Some wheat fields were sprayed with Dieldrin to reduce numbers and protect the crop.

Forage Insects

Alfalfa Weevil have spread from the Montana border, throughout the irrigated areas. Some fields in the Milk River valley and the Lethbridge area were noticeably defoliated. A few were treated with insecticides.

Sweet Clover Weevil numbers and damage remained high in most districts of the foothills and parkland. Dieldrin and Heptachlor sprays were effective but presented a chemical residue problem in milk and beef. Test work was continued with Dieldrin and Heptachlor granular and Malathion spray on 12 test fields in the Edmonton, Lacombe and Bonnyville districts. A mimeograph "Malathion Use For Forage Insects" was prepared and distributed.

Vegetable and Special Crop Insects

Beet Webworm populations remained low and only a few fields of sugar beets were sprayed. Colorado Potato Beetle infested most fields in the irrigation area and heavier infestations were sprayed. Sugar Beet Root Maggot caused serious damage in many untreated fields and occurred for the first time in heavier soil areas. About 12,000 acres were treated with insecticides worked into the soil. Root Maggots of crucifers and onions caused heavy losses in commercial and garden crops where insecticide soil treatment was not used. Publication 130 "Control of Garden Pests" was revised and distributed.

Rapeseed insects were numerous on the increased rapeseed acreage and several thousand acres were sprayed. Flea Beetle damaged the seedling crop in most districts of north-central Alberta. Red Turnip Beetle, Diamond Back Moth and Beet Webworm damaged later crops in various districts. A special mimeograph "Insect Pests on Rapeseed" was prepared and distributed. Sugar Beet Nematode was discovered for the first time in a Barnwell field, where 4 out of 12 acres of beets were completely ruined. Federal workers examined 720 fields but no other infestations were found. The infested crop was destroyed, the soil fumigated and the field taken out of beet production for 6 years. Canadian Sugar Factories has placed all growers on a 4 year rotation as a further long-term precaution.

Shelterbelt Insects

Spruce and Larch Sawfly occurred in fewer numbers. Aphids and Spider Mite were numerous on shelterbelt trees, ornamentals and raspberries. Forest Tent Caterpillar occurred in outbreak numbers in many districts of the parkland-wooded area. Pear slug infested cotoneaster, mountain ash and plum species at many locations. During 1961, 3 districts obtained sprayers under the Department 50% grant policy:—County of Lacombe No. 14, M.D. of Spirit River No. 133 and I.D. No. 134. Twenty districts now have spraying equipment for insect control. Some 225 shelterbelts were sprayed by Department and Municipal sprayers. Publication No. 41 "Insects Attacking Conifers" was revised and distributed for control of various shelterbelt insects.

Other Insect Pests

Stored grain insect pests as Rusty Grain Beetle and Grain Mite decreased as grain moved steadily to market. Where problems occurred, approved gas masks and canisters for fumigating grain safely were supplied. Red Clover Mite continued in outbreak numbers in urban homes and several hundred enquiries were handled. Strawberry Root Weevil and Manitoba Maple Bug were also frequent invaders of homes. The hot, dry weather contributed toward many unusual, localized outbreaks of various insects. Some 60 insect specimens were identified, besides those handled by the Crop Clinic. Revised Publication 139 was supplied for problems and to interested agencies.

Bird Problems

Further investigational work was carried out on blackbird and starling damage to corn and sunflowers. Recommended control through the use of exploding guns has proven effective where the scaring devices were used before serious damage began. Information on live trapping and other control methods was supplied for blackbird, starling, sparrow, pigeon and other bird problems.

Crop Diseases

Diseases of Cereals

Crop diseases were generally less severe than usual. Smuts and Root Rots of wheat and barley remained low, showing the benefit of seed treatment and dry conditions. Stem and Leaf Rust occurred only in trace amounts. Covered and Loose Smut of oats were low except in a few fields where seed was not treated. Scald of barley remained low but Net Blotch increased slightly. The unusually hot, dry weather of early June resulted in many grain fields showing heat damage but recovery was good with return of normal weather. Timely articles were released on seed treatment and disease control by crop rotation and good management practices. Municipal seed cleaning plants treated 2,804,000 bushels or 36% of total seed cleaned compared to 1,795,000 bushels in 1960.

Diseases of Other Crops

Seedling Blight of flax occurred in most fields, indicating the need for proper seed treatment. Root Rot of peas was common in the irrigation districts with complete loss of over 100 acres of canning peas at Taber. Fire-blight of apples, mountain ash and related ornamentals continued high in most urban areas.

Diseases of Potatoes

(a) General

The Annual field disease survey began on August 28 with 12 inspectors employed. Fair weather and little frost damage contributed toward a rapid but thorough survey. Blackleg and Rhizoctonia were the most common of the serious diseases found but generally were at a low incidence. Scab, Leaf Roll and

Wilts were generally low. Larger commercial fields especially showed the results of certified seed, good sanitation and management in vigorous crops. Early Blight occurred in larger amounts in some irrigated fields which were sprayed with fungicide. Late Blight occurred in trace amounts only. The Division continued field tests with various fungicides for scab control with some promising results.

(b) Bacterial Ringrot

The control program was continued in established Pest Areas. Ringrot infected stocks were disposed of before planting time. Growers co-operated well in cleaning up and disinfecting storages and no official notices were served. Department sprayers working out of Edmonton and Lethbridge disinfected 42 cellars plus machinery and equipment. Certified seed lists were supplied to all commercial growers. Growers with ringrot in 1960 planted certified seed or seed grown on a separate, approved seed plot. Basic precautions proved effective where carefully followed. The following table shows the crop situation and survey results, with 1957 - 60 data for comparison purposes:

Pest Area	Year	No. Farms		Acreage		% Infected	
		Inspected	Infected	Inspected	Infected	Farms	Acreage
Lethbridge	1957	247	63	4,826	1,280	25.5	26.5
	1958	234	65	5,108	1,091	27.8	21.4
	1959	208	35	6,749	1,165	16.9	17.3
	1960	198	53	6,937	1,944	26.8	28.0
	1961	178	64	7,077	2,590	35.9	36.5
Calgary	1957	34	1	162	1	2.9	.6
	1958	35	4	253	36	11.4	14.2
	1959	41	9	353	100	22.0	28.3
	1960	39	2	291	11	5.1	3.8
	1961	35	4	261	4	11.4	1.5
Brooks	1957	43	11	1,538	285	25.6	18.5
	1958	42	5	1,486	132	11.9	8.9
	1959	36	8	1,594	196	22.2	12.3
	1960	36	10	1,745	565	27.8	32.4
	1961	38	11	2,014	551	28.9	27.3
Edmonton	1957	152	26	2,225	343	17.1	15.4
	1958	153	26	2,370	363	17.0	15.3
	1959	148	25	2,956	507	16.9	17.1
	1960	126	16	3,123	264	12.7	8.4
	1961	124	27	3,114	973	21.8	31.2
TOTAL	1957	485	101	8,783	1,909	20.9	21.7
	1958	475	100	9,233	1,622	21.1	17.6
	1959	442	77	11,676	1,968	17.4	16.8
	1960	408	81	12,138	2,784	19.8	22.9
	1961	370	106	12,466	4,118	28.6	33.0

A total of 12,466 acres on 370 farms was inspected. The Canada Department of Agriculture co-operated in certified seed field survey and diagnostic service. More infected farms were found in all areas increasing the total number to 106 from the 81 of 1960. The presence of infection in imported seed stocks of newer varieties was responsible for most of the increase. However in practically all cases, only trace infection was found—often only 1 or 2 plants in 100 acre fields. The total amount of disease remained at a low level with little loss in yield, storage or quality to producers or the trade. All growers with ringrot

infection were contacted by mail and by personal interview to advise and assist with orderly crop disposal and control measures. Various circulars, publications, disease charts and other control information were distributed to all commercial growers. Two potato grower meetings on disease control, were attended. Alberta Regular 95/61 Respecting The Control of Bacterial Ring-rot was revised and distributed to all growers before the planting season.

Livestock Pests

Cattle Grubs and Lice

Stockmen showed keen interest in new livestock systemic insecticides. Meetings, attendance and inquiries were almost double those of 1960. Information on warble and louse control was supplied by data compiled from field tests of 1958 - 60. Five cattle spraying demonstrations were conducted to complete coverage of districts of the province not covered by the 40 demonstrations of 1959 - 60. Several more districts organized cattle spraying associations. Most Agricultural Service Boards provided sprayers for demonstrations or service spraying. Some 107 demonstrations were held and 1,246 herds with 50,250 cattle were sprayed for warbles and lice.

The Forestburg Warble Test Project completed its second year successfully. A total of 7,400 cattle were sprayed on about 200 farms to get complete coverage of all livestock in the test area. The two systemic insecticide sprays, Co-Ral and Reulene, reduced the grub count from an average of 14 per head to less than 1 per head, giving 94 to 99% control. Louse control was effective for 4 - 5 months overwinter. Considerable information was gained on control methods and organization of large scale control areas for use in other districts. Spring checks were made on 14 field tests in various districts to get further data on effectiveness of new insecticides and results on weight gains. During the year, a further 6 field trials were conducted for information on control of grubs, lice, flies and mosquitos. Publications 98 and 73 on warble and louse control were supplied and several timely articles were prepared for the farm press and district offices.

Magpie Control

The control program, based on local control measures to meet local needs, was continued in 1961. Control demonstrations were set up in various districts to complete the training of district and municipal officials who then could assist with individual and local control programs. Recommendations as set out in Publication 120 "Magpie Control in Alberta" were used on many farms. The Division co-operated with municipal officers, Fish and Game Associations and the Fish and Wildlife Division in district campaigns in the Warner, Lethbridge, Brooks, Olds, Didsbury, Rocky Mountain House, Barrhead and Stony Plain areas. In the County of Newell No. 4, where livestock damage occurred, an estimated 6,000 magpies were reported killed by poison bait. Generally fewer reports of actual magpie damage to livestock were received than during the last several years.

Coyote Control

The following approved poisons were supplied free of charge to 87 approved districts which include all settled areas of the province: cyanide guns (coyote getters), strychnine and sodium fluoroacetate (compound 1080). Since 1951 when the Department undertook the control of coyotes in settled areas, a total of 42,260 coyote getters, 114,560 cyanide cartridges and 926,500 strychnine pellets have been distributed by provincial and municipal pest control officers. Coyote getters were not used as commonly as the easier-to-apply strychnine sets. The recall of all unused getters distributed throughout the province in the last 10 years was continued. This was done in the interest of public safety. A special release was distributed as a precaution against accidental poisoning.

The following table shows the amounts of major coyote control materials supplied since 1951 and estimated coyote kills by the 3 poisons used.

	Coyote Getters	Cyanide Cartridges (2	Scent oz. Jars)	Strychnine (Pellets)	Estimated Coyotes Killed
1951	5,560	11,510	1,050	.....	8,400
1952	4,530	12,460	1,350	.....	12,300
1953	18,800	46,030	8,120	116,000	56,300
1954	5,410	20,110	7,370	192,000	62,100
1955	4,080	10,990	6,340	195,500	57,200
1956	1,580	5,000	3,330	124,500	50,500
1957	830	4,140	2,310	76,000	41,000
1958	400	1,230	1,340	58,500	34,900
1959	240	820	1,330	66,000	32,700
1960	110	1,170	1,150	59,000	28,300
1961	720	1,120	910	39,000	26,600
TOTALS	42,260	114,560	34,600	926,500	410,300

Coyote control was continued in areas outskirting settlement. Six provincial pest control officers were fully employed during the winter in Improvement Districts. During the summer, 9 provincial weed inspectors handled coyote control along with regular duties.

The poison 1080 was set in sparsely settled areas, where poisoning could be done with maximum safety to the public, to help individual farmers using other control measures on their own land. As requested by Municipalities and approved by the Minister, the following 1080 baits were prepared and set during the winter season:

District	No. Baits Set	District	No. Baits Set
M.D. of Acadia Valley No. 34	12	County of Warner No. 5	14
M.D. of Bonnyville No. 87	7	County of Wetaskiwin No. 10	12
M.D. of Cardston No. 6	33	County of Wheatland No. 16	14
M.D. of Eagle No. 81	12	County of Vulcan No. 2	12
M.D. of Flagstaff No. 62	12	Special Areas No. 2 & 3	23
M.D. of Foothills No. 31	12	Army Range (Ralston)	10
M.D. of Kneehill No. 48	12	I.D. No. 11	23
M.D. of Lac Ste Anne No. 93	15	I.D. No. 22	4
M.D. of Leduc No. 75	11	I.D. No. 27, 946 & 50	16
M.D. of Lethbridge No. 25	8	M.D. of Starland No. 47	10
M.D. of Minburn No. 72	5	M.D. of Stony Plain No. 84	11
M.D. of Mountain View No. 49	1	M.D. of St. Paul No. 86	12
M.D. of Paintearth No. 53	14	M.D. of Strathcona No. 83	1
M.D. of Pincher Creek No. 9	12	M.D. of Taber No. 14	18
M.D. of Provost No. 52	10	M.D. of Vermilion River No. 71	18
M.D. of Red Deer No. 55	15	M.D. of Wainwright No. 61	23
County of Beaver No. 9	10	M.D. of Willow Creek No. 26	13
County of Lacombe No. 14	13	I.D. No. 58, 65 & 68	37
County of Forty Mile No. 8	22	I.D. No. 77, 78 & 95	13
County of Newell No. 4	21	I.D. No. 85 & 101	2
County of Ponoka No. 3	20	I.D. No. 102	14
County of Stettler No. 6	12	I.D. No. 107	14
County of Thorhild No. 7	2	Total No. Baits	605

A total of 74 districts, including Counties, Municipal Districts, Special Areas, Improvement Districts, Indian Reserves, etc., are now approved as areas where 1080 may be set. The following table shows the 1080 program for the last 5 years:

	1957	1958	1959	1960	1961
Number of Sets	778	749	632	529	605
Number of Districts Using	47	50	55	54	53
Number of Districts Approved	57	68	72	73	74

The Supervisor, his Assistant and 3 Fieldmen working out of Edmonton and Lethbridge, serviced 53 districts using 605 baits during 1961.

Rodent Control

Pocket Gopher

There was considerable interest in controlling the pocket gopher which damaged forage crops, gardens and shelterbelts. Field tests of the previous year were assessed in early spring and poison bait was found 70 - 80% effective. Ten requested demonstrations were conducted in various districts with 472 persons attending. The Department "burrow builder machine" was also tested on large areas of rangeland on 5 ranches in the Calgary-High River districts. Chemical control plots were set out in the foothills area to gain information on practical application. The Division assisted 5 municipalities and several individuals in the construction of "burrow builders" for use on a community basis.

Other Field Rodents

High population of mice and rabbits continued to damage fruit trees, ornamentals and shelterbelts. Field tests and demonstrations were conducted, using various repellents, insecticides and poisons. Four repellents proved successful against rabbits during winter testing. Several prepared information circulars on rabbit and mouse control were distributed. The information gained from several seasons investigation on the Columbian ground squirrel was summarized and distributed in circular form. A circular on poisoning gophers (Richardson's Ground Squirrel), was also prepared and distributed.

Norway Rats

The rat control program was continued in all parts of the province with special emphasis on the east border. The following table indicates the rat situation on December 31, 1961, with 1959 - 60 results for comparison purposes:

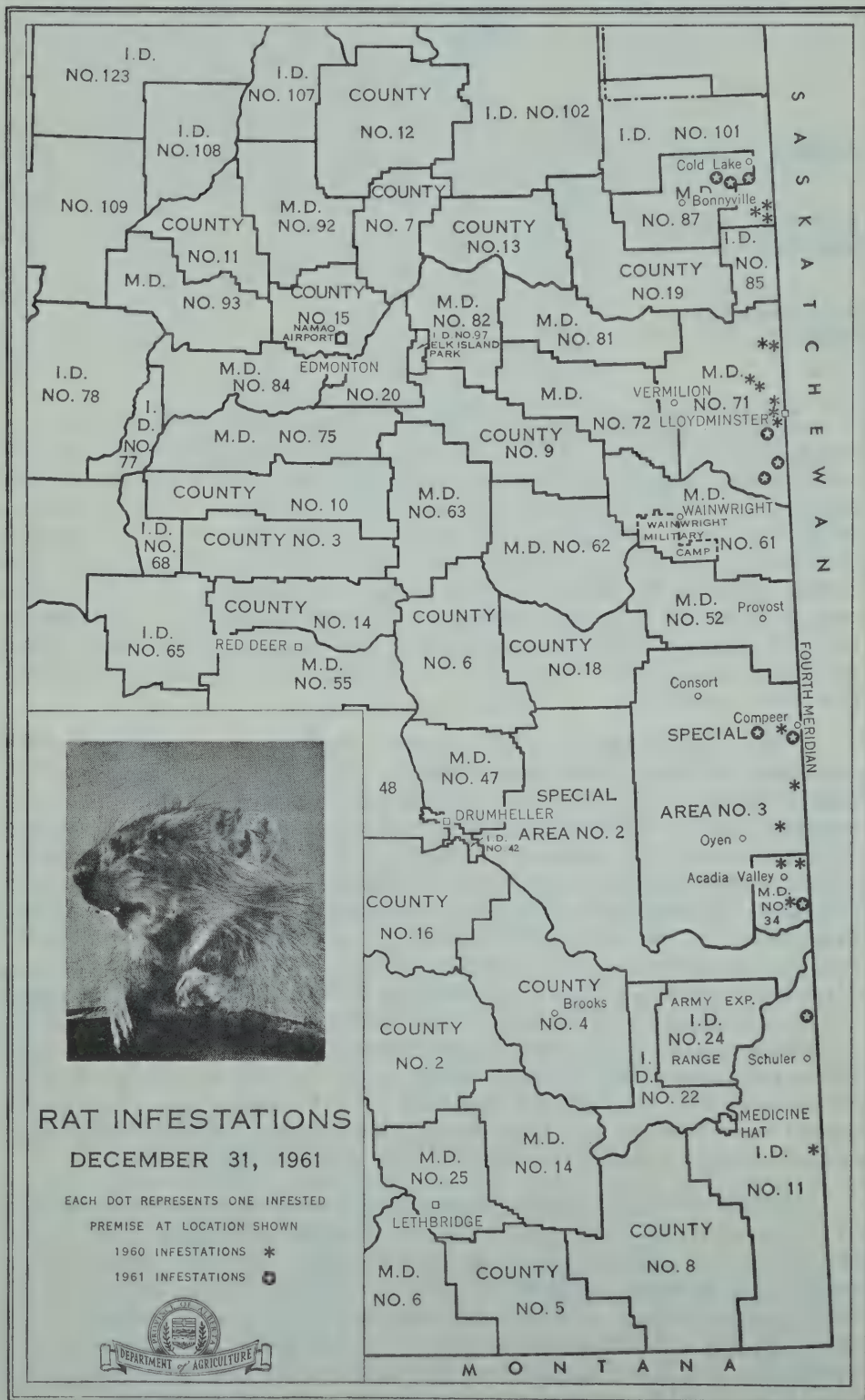
	Year	Verm. River M.D. No. 71	Wainwright M.D. No. 61	Provost M.D. No. 52	Sp. Areas No. 2 & 3	Acadia M.D. No. 34	I.D. No. 11	I.D.'s 85 & 101	Totals
Premises Checked	1959	1,411	363	604	567	177	417	462	4,000
	1960	1,317	366	568	564	176	431	330	3,752
	1961	817	366	568	566	182	457	265	3,221
No. Infestations									
Exterminated	1959	88	10	27	56	34	89	73	377
	1960	60	11	8	40	12	12	11	154
	1961	36	8	7	35	13	13	24	136
No. Infestations									
Remaining Dec. 31/61	1959	4	0	0	6	1	6	0	17
	1960	7	0	0	3	3	1	3	17
	1961	3	0	0	2	1	1	3	10

A total of 146 premises were infested during the year as compared to 171 in 1960. All but 10 were exterminated by the end of the year. Remaining infestations consisted of a few rats which were being systematically destroyed. The invasion from the East was the smallest in years, showing the results of steady, concerted action in all districts along the east border. Seven Notices to Control Pests were issued and 1 court action was necessary to obtain effective control measures. Co-operation of the public was generally excellent. Rats were held all along the 380-mile front and confined to a narrow strip along the east border.

The Department's 50% grant toward the salaries and expenses of municipal pest control officers was continued in 6 border districts. Two full time provincial pest control officers worked closely with municipal men and residents and supervised control in northern Improvement Districts. Some 250 pest control officers were appointed by rural municipalities, cities, towns and villages. These men handled scattered infestations throughout the province and checked numerous reports of suspected rats. Preventive measures were increased by improvement of garbage disposal grounds, portable granaries blocked off the ground, feed stacks baited, etc. Warfarin and Pival poison baits were widely distributed, free of charge, to residents of the infested areas. The following quantities of bait were used during the year: Ready Mixed—20,000 lb., Water Soluble—5,040 packages. Estimates based on average rat infestations and amounts of poison consumed indicate that over 29,000 rats were killed.

Educational rat displays and demonstrations were conducted at summer fairs and meetings in eastern Alberta. Four rat control films, numerous colored slides, live and mounted specimens and control materials were displayed and discussed at various meetings in Alberta and Saskatchewan. Four days were spent in the border area on liaison work with the Pest Control Specialist for the Province of Saskatchewan. A proposed provincial campaign by our neighbor province has renewed interest

in Alberta workers. Newly appointed pest control officers were supplied with rat control kits, posters and publications for public distribution. Twenty-three suspected rat reports were investigated at points other than the east border. Publication No. 8 "Rat Control in Alberta" was revised and printed. Several timely articles were prepared for the press and Department publications.



Pest Control Advisory Committee

The fifth annual meeting of this Committee was held in December, with representation from the Canada Department of Agriculture, the University, the Fish and Wildlife Branch and the Field Crops Branch. The Predator and Wildlife Sub-Committee also met in December. Various problems of mutual concern were dealt with by both Committees. The Supervisor and his assistant served as secretaries for both Committees.

Miscellaneous

The Supervisor and his Assistant spoke at 32 meetings, short courses and field days. Four Agricultural Service Board and Municipal District Council meetings were attended on various pest control programs. Twenty-nine conference and committee meetings were attended. Fourteen articles were prepared for Farm Notes, 3 for the farm press and 5 radio interviews were made. Compilation was completed on the crop and livestock pest losses survey. The Division co-operated with the Dairy Laboratory in conducting a survey on insecticide residues in milk products. There were 205 field investigations made on various problems.

HORTICULTURE

Horticulture Services

Alberta farmers planted 2,140,400 trees from the Provincial Nurseries at Oliver and Brooks. This is an increase over 1960 of 259,255. The number of farmers receiving trees was 3,375, an increase of 623 over the previous year. Because the majority of Alberta municipalities now own mechanical tree planters the two Department machines were not used for demonstration purposes. 2,289 applicants planted farmstead shelterbelts, 549 field windbreaks, 214 roadside plantings and 323 ordered replacement trees to fill in and complete existing plantings.

1961 was a very dry year over the southern third of the Province and these areas reported substantial losses particularly in the case of evergreens and hardwood cuttings of poplar and willow. The trees surviving the early drought made excellent growth and went into the winter in good shape.

Tree Nursery—Oliver

1,593,680 trees and 129,900 hardwood cuttings of poplar and willow were supplied to 3,103 farmers from the Oliver Nursery. This is an increase of 114,135 trees over 1960 and 351 in the number of applicants receiving trees from the Nursery.

An inventory of trees on the Nursery at the end of the year included 5,300,000 evergreens and 2,500,000 deciduous trees. In addition to these 7,800,000 trees the Nursery staff made 365,000 hardwood cuttings of poplar and willow. Additional cuttings will be made during the winter of 1962.

Seed of the following varieties was collected, extracted and cleaned. 35 lb. Burr Oak, 10 lb. Mountain Ash, 8½ lb. Tartarian Honeysuckle, 50 lb. Villosa Lilac, 350 lb. Manitoba Maple, 500 lb. Green Ash, 80 lb. Colorado Spruce, 5 lb. White

Spruce and 3 lb. Douglas Fir. The enlarged program for the Forestry Department initiated two years ago was continued. The Nursery received 4,309 bushels of cones of several species of spruce, pine and Douglas Fir. This has resulted in 4,400 lb. of clean seed having a value of more than \$40,000.00. This work will be continued through the winter of 1962.

An addition to the packing shed was completed during the year. A Crawler Type tractor was added to the Nursery equipment. A cone scorching machine was designed and constructed by the Nursery Staff. This machine decreased the time taken to open pine cones by other pre-heating methods thus speeding up the extraction and cleaning of this seed. 120 seed beds were prepared and planted to spruce and pine for the Department of Lands and Forests. The Nursery was increased in area by the addition of 80 acres.

Germination tests were made on spruce and pine seed for the Department of Lands and Forests and the Fertilized Trials started a year ago were continued.

There was no serious outbreak of insects or disease at the Nursery. Due to the extreme heat in July and August some browning of white spruce developed. This condition was corrected by cooler weather and additional watering. The complete Nursery was sprayed twice to control insects.

Chemicals were used to spray the Nursery to control weeds thus reducing hand weeding to a minimum.

No new windbreaks were added. The shelterbelt containing Crabapples was removed and cleaned up prior to replanting with a more desirable shelterbelt tree. The 80 acres of new land were worked several times to get rid of the perennial weeds particularly quackgrass.

2,500 (2-1) white spruce were supplied to the Federal Government Department of Forestry for research purposes. 40,000 (2-3) Colorado spruce were supplied to the Forest Nursery Station, Canada Department of Agriculture, Indian Head, Saskatchewan. 700 mixed varieties of trees and shrubs supplied to the Calgary Branch of the University, 5,100 trees supplied to the Department of Public Works for planting in the Calgary area. 9,000 trees for the Provincial Gaol, Calgary. 23,750 trees to the Parks Department, City of Edmonton. 9,200 trees for the Parks Department, City of Calgary and 10,500 trees to the Department of Lands and Forests for planting in Provincial Parks.

The Nursery employs a staff of 4 permanent men. 40 extra men were employed during the shipping season. In the summer 7 extra men are hired plus 2 patients from the Oliver Hospital.

Seed Potato Production

The following table is a 9-year summary relative to seed production in Alberta.

	1953	1954	1955	1956	1957	1958	1959	1960	1961
No. of Growers	86	70	67	72	65	61	68	62	57
No. of Fields Inspected	200	223	228	220	222	203	266	253	249
Acres Inspected for Cert.	942	1,022	1,004	1,328	1,577	1,615	2,070	1,847	2,176
No. of Fields Rec. Cert.	168	198	214	186	188	172	236	223	158
Acres Passed for Cert.	844	905	965	1,129	1,272	1,300	1,716	1,547	1,442

Tuber Indexing of Foundation Seed

The service of indexing foundation potatoes was continued by the Field Crops Branch, Brooks Horticultural Station, University of Alberta, and the Canada Department of Agriculture. 2,753 tubers, almost the identical number to 1960, were grown in the greenhouse at the Provincial Horticultural Station, Brooks, and disease readings taken March 21st and 22nd. The germination and growth of the plants was the best ever but virus infection was heavier than in previous years. 71.3% of the tubers were returned to the growers as qualified for production of foundation seed. 21.6% showed Mosaic. 7.1% showed unsatisfactory growth. The varieties tested were Netted Gem, Warba, Irish Cobbler, Red Pontiac and Norland.

Potato Production Improvement Committee

This Committee appointed by the Horticultural Advisory Committee, is composed of potato growers from all commercial producing areas of the Province and Government personnel interested in potato production. It has the responsibility of assisting and advising the potato industry in the Province and acting in advisory capacity to the Horticultural Advisory Committee. Two meetings were held in 1961, the Annual Meeting in Calgary in March and the second in conjunction with a Field Day held at Lethbridge in August.

Nursery Inspection

In co-operation with personnel of the Canada Department of Agriculture, the Supervisor of Horticulture, inspected 14 Commercial Nurseries. The inspection was carried out to check the Nurseries for disease and insects, with particular attention being paid to imported stock. As a result of this inspection the Department in co-operation with the other Prairie Provinces publishes a list of Prairie Nurseries.

Horticultural Advisory Committee

This Committee was composed of representatives of the Field Crops Branch, University of Alberta, Research Stations of the Canada Department of Agriculture and representatives of the amateur and commercial industry in the Province. The Committee was responsible to and reported to the Crop Production Board.

Alberta Horticultural Association

The Association held its 9th Annual Meeting at Olds, April 7th. The 7th Provincial Horticultural Show was held in Lacombe, August 24th, in conjunction with the Annual Bench Show of the Lacombe and District Garden Club. The Executive met three times at Lacombe.

Other Activities

The Supervisor of Horticulture addressed 17 Public Meetings. In addition he spent time in 22 District Agriculturists' areas

assisting with farmstead planning and beautification, tree planting and many other horticultural matters. He assisted at 9 4-H Grain, Potato and Garden Clubs Achievement Days. He acted as judge at 10 Horticultural Bench Shows. He attended 8 regular monthly meetings of the Edmonton and District Planning Commission and 3 Executive meetings of this Commission. Eighteen visits were made to the University to discuss matters of mutual interest. Five radio talks were given, three on the Department's daily program "Call of the Land" and two on the C.B.C. Twenty press releases were published in the Department's weekly newsletter "Farm Notes." Sixty-three trips were made to the Oliver Tree Nursery and 3 trips to Southern and South-eastern Alberta and two to the Peace River and Fort Vermilion district to attend meetings and Field Days regarding special crops of these areas. He is a member of the Alberta Horticultural Association and attended three Executive meetings, the Annual meeting and the Provincial Horticultural Show sponsored by this Association.

HORTICULTURAL STATION, BROOKS

Administration

This Horticultural Station report covers the ninth growth season since its re-establishment at a new location in 1953. Difficulties encountered during this period have been many, but the report which follows indicates that a period has been reached yielding returns to justify the efforts of previous years.

The year was notable for developments in the vegetable program. Tomato from seven generations of selection, and varietal introductions of paste types, were most encouraging. Potato breeding work produced seedlings of real promise for earliness and processing. Cultural and marketing work with vegetable crops proved the feasibility of serving a large potential fresh vegetable enterprise.

Small fruits yielded promising results, and the first major crop of "top fruits" permitted selection within the segregating blocks.

The growing interest in horticulture within the province can be judged by the increase in correspondence and the number of visitors to the Station.

A heavy loss was sustained by the Station in the death of John A. McKay. His position at the Station was unique in that he had the longest association with its work. Mr. McKay was ever conscious of its welfare and development.

Among staff changes to be recorded was the appointment to full classification of Mr. Stevan Molnar who carried the vegetable program. Miss Jean Horner, the undergraduate in fruit work, resigned late in the season to be married. A large number of student assistants joined the staff during the summer season. Two of these were from Great Britain and one from the United States.

Weather

The growing season covered 137 days between the killing frosts of April 28 and September 13. Length of the frost free period was 117 days; the last spring frost occurring May 17 and the first fall frost on September 12.

The winter was open and mild, resulting in very little winter damage or killing in tree material. There was practically no snow cover, except for one to four inches of snow between January 1 and 28. The extreme low was -29°F on December 12 and the extreme high of 100°F occurred on August 5.

Moisture supply during the growing season was far below normal with an especially dry April, May, June, August and September. June and August were excessively hot, July slightly cooler than average and September was quite cold. High labor outlay was required to maintain sufficient moisture on the cropped acreage for adequate growth.

Maintenance

General maintenance has required more labor as various installations showed wear and small repair jobs were more frequent. In the main building, dependability of the heating system was improved with the installation of an automatic feeder on the boiler. Locker No. 5 has been equipped with a combination heating-cooling unit. Two coolers installed on the north greenhouse ensure better temperature control.

The water reservoir was pumped dry this spring and thoroughly cleaned and disinfected. At this time the water filter was recharged. Inspection revealed the six-year old structure to be in good condition.

Plumbing and drainage have been an increasing problem on the Staff House. Galvanized pipes were replaced throughout with copper. The underfloor weeping tile drain, which became entirely plugged with tree roots, was replaced by glazed tile with cemented joints. The stove and refrigerator in the staff house and the stove in the test kitchen have been replaced with new units.

Besides the annual program of gravel repairs to station roads, a new road south of the main ditch in Plot 20 was built.

New Buildings—An arch-rib quonset machine shed was constructed directly north of No. 2 lathhouse and adjacent to the present machine yard. Designed to double as a packing shed during tree shipping season, it is convenient to the heeling-in ground. The foundation for a picnic shelter was poured prior to freeze-up and the building is being completed as a winter works project.

Machinery—Aside from minor repairs left for winter work, station machinery is in good condition. Added this season—a Gravely garden tractor expedited work in the lathhouse, small fruit orchards and other small plantations. With a view to elimination of tractor rental and increasing labor efficiency, an M.F. 35 has been purchased. A nursery bundle-tyer purchased this year has greatly improved handling of trees in

storage and shipping. Presently being processed is purchase of a more adequate pump to improve the sprinkler irrigation equipment.

Propagation

The sowing of tree seed in the lathhouses commenced on April 17 and was completed on May 2. Germination of seeds was not too satisfactory. A few varieties grew well from seed and were ready for shipping the same year.

Largely due to improved irrigation methods, through use of corrugates, transplant stock lined out in the field did extremely well. On the other hand, cuttings of poplar and willow did very poorly. 80,000 cuttings planted at Strathmore were a complete loss. Willow cuttings on the Station showed a survival rate between 40% and 50%, while survival of poplar cuttings was less than 10%.

The number of trees propagated this year was 328,132. 80,000 were shipped this fall. The remaining trees are stored in the root cellar, enabling earlier shipping than formerly. 80% of the seed required for the Station was collected locally.

Extension

The promotion of vegetable crop production for southern Alberta—required attendance at 27 meetings. Twenty-eight farm calls were made, eight of these to give assistance in landscape problems. Staff members attended 18 field days and judged 17 flower shows. Fourteen speaking engagements were made to Garden Clubs and two television shows were staged. A large display of flowers and fruit from the Station orchards was entered at the Provincial Horticultural Show held at Lacombe and received high commendation.



Forty landscape plans were completed for individuals and public building sites. Twelve hundred visitors registered at the Station during the year.

Herbicides and Weedicides

Screening a wide range of herbicides was undertaken to assess crop tolerances at rates of application giving satisfactory weed control. Work with vegetables included fourteen root, vine and leafy types plus one garden ornamental, with 14 different pre-emergent herbicides. Triazines showed promise only on corn and gladioli. Alanap, C.I.P.C., Dowpon, Endothal, Eptam, Premerge and Randox trials, at recommended rates, were not consistent in crop tolerance and weed control, with results elsewhere.

Poor weed control with some chemicals was due to hot dry weather at the time of spraying, resulting in steam distillation loss. Mechanical incorporation in the soil at time of application or use of sprinkler irrigation appears necessary in hot dry weather. Green foxtail and annual grasses were controlled more readily than broadleaf weeds. Five post-emergent herbicides gave poor results.

Carrots—Three-quarters of an acre of Long Imperator carrots were seeded, using California "raised bed" cultural practice. Of the four post-emergent herbicides used, Dicryl proved unsatisfactory but Solan, Shell Herbicidal oil and clear diesel fuel gave satisfactory weed control.

Onions—Eleven different chemicals showed no promise for control of Russian thistle in onions.

On potatoes and corn Premerge, used as a general field treatment, gave good results.

Small Fruits—Treatment of strawberries with Sesone was only partially successful due to hot dry weather. Diathol wettable powder was effective but no damage to strawberries resulted from either treatment. September treatment of raspberries in 1960 showed residual effects in the spring of 1961. Amizine in fall treatments controlled weeds through the following summer. There was some reduction in growth of canes and some chlorosis on leaves. Fruiting was normal. Dormant treatments in early spring with C.I.P.C. 4, Sescne, and 2,4-D showed promise for pre-emergent control of weeds in raspberries and currants. Nanking cherries treated in September, 1960, with Amizine gave good weed control in 1961 with no apparent injury to trees.

Perennial Flowers—Pre-emergent treatments of peonies with Sesone effectively controlled annual weeds.

On seedbeds, five pre-emergent and pre-plant herbicides were tried with Sesone and C.I.P.C. showing promise on some varieties. Vapam treatment cannot be evaluated until the spring of 1962. The pre-plant treatment of transplanting stock showed that C.I.P.C. and Sesone warrant further trials.

Orchard Spraying—Dowpon plus 2,4-D, as a fall treatment, gave good results with residual effect lasting into late spring.

Fall treatments, applied for evaluation in 1962 in apple and plum orchards, are Alanap, Eptam, Dowpon, C.I.P.C., and Sesone. These five herbicides were all applied in combination with 2,4-D.

Shelterbelts—Paraquat and Diquat showed promising results as post-emergent control for grass and weeds in shelterbelts. Limited tests with Amitrol gave some promise in evergreens. Amizine and Simazine resulted in slight damage to plants and gave good weed control.

Ornamentals—Tests were laid down with Simazine granulars in roses and apple seedlings for evaluation in 1962. All tests with Amitrol, Amizine, and Simazine resulted in some plant damage accompanied by good weed control. Further work to adjust rates of application was indicated. 2,4-D proved useful as a directed dormant application. Sesone applied on moist ground was effective. Eptam, C.I.P.C. and Alanap warrant further trials. In addition to the above a general spraying program was carried out to maintain weed control in grain crops, lawns, pastures and roadsides.

Potatoes

The four highest producers of the 13 varieties grown in the Prairie Regional Trial were: Irish Cobbler, Warba, F5350 and F4631. Highest in dry matter (D.M.) was F52100 showing 23.50. The Netted Gem was the lowest in both yield and marketable percentage of tubers.

In the National Adaptational Trial one hundred and eleven seedlings and varieties were planted. Of the seedlings, 85 were from Fredericton, 5 from Brooks, 6 from North Dakota, 4 from Winnipeg, 1 from Morden, 1 from Beltsville, and 9 English varieties forwarded from Scott, Saskatchewan. Data from this trial and from the Prairie Regional Trial have been compiled and reported to the Prairie Potato Committee.

As an aid in evaluation, specific gravity readings were taken on Prairie varieties and the Brooks trials. Taste panels appraised the 1961 crops culinary value in cooking and baking. Chipping and French frying will also be used to screen 1961 results.

Of 10 varieties grown in the Brooks Regional Trial, the 4 highest producers were Bp.55-13-7, Norland, Keswick and Epicure. Cherokee was highest in D.M.

Sixteen Brooks seedlings, 4 named varieties and 3 foreign seedlings comprised this year's Brooks Adaptational Trial.

The Early Tuberizing trial features a search for early setting and sizing ability. At three harvesting periods—August 8, August 22 and September 4, data were collected on total marketable weights, yield per hill, marketable percentage and chipping quality. Fundy, Bp.55-13-7, Norland, and Bp.57-12-3 were the best yielders. Norgleam, F52100, Bp.55-25-2, Bp.56-19-Jf, and Bp.57-502 showed good chipping characteristics.

In the Breeding Program controlled cross potato seed from Fredericton, Winnipeg and Aberdeen were sown and transplanted

in the greenhouse in August as part of a continuing program. Seedlings harvested number 8,309.

The 1960 seedlings, numbering 7,249, were field planted in the spring and 96 selections made. Reselection from annual trials has left one seedling from 1954, five from 1955, three from 1956, seven from 1957, thirteen from 1958, and forty from 1959. Specific gravity readings have been recorded for these Brooks seedlings. Culinary tests were partially completed, including cooking and baking. Chipping and French frying will be used in the final evaluation.

Tuber Indexing Program—As a service in maintaining healthy seed stock, 5,374 tubers were indexed during last winter. Twelve growers submitted 2,753 tubers, the remaining 2,621 tubers were from the Station breeding program. Germination and growth of plants was the best ever obtained, but virus infection was heavier than in previous years. In 1959—91.1% of the tubers were returned to the growers as disease free; in 1960—95.6%, and in 1961—71.3%.

Vegetables

Varietal Trials—Five hundred and fifty-two varieties of 43 kinds of vegetables were grown in 30-foot rows. Yield and other data were recorded to aid evaluation of the worth and regional adaptability of new varieties. Their performance, checked against that of known and presently recommended varieties and their quality rating in freezing and household use, serves as the basis of our recommendations in the "Horticultural Guide."

Cabbage Breeding—Plantings were made from seed obtained in the program begun in 1950. Six lines were developed from combinations of the inbred strains of Evergreen cabbage. From these lines some fifty-four 1960 selections were grown and 116 selections made.

Sweet Corn Breeding—One hundred and thirty-four inbred strains of selected Burbank sweet corn were planted in 1961 and yielded strains twice inbred by sib pollination within lines. Foundation seed was harvested from the Burbank and Altalgold sweet corns.

Tomato Breeding—From 87, 1960 field selections, 5,138 plants of F_5 to F_7 generations were grown. This material produced 155 outstanding plants. Five of the many types of tomatoes under close observation for two years show promise for future breeding programs, designed to develop high quality new varieties for canning, tomato paste, and tomato soup production.

Tobacco Trial—Five varieties of flue-cured type tobaccos were grown in 4 replicated randomized blocks. Four varieties were obtained from Delhi, Ontario, and one from Harrow, Ontario. Excellent vigor and a disease free stand, resulted. Green tobacco leaves of the 5 varieties, harvested September 12, were shipped to Delhi by air express for curing and evaluation.

Onion Sets—A production trial of onions, multiplier and shallot varieties was undertaken. Sown in early May the 22-inch

apart bands were 4 inches wide, consisting of three rows planted two inches apart. Light sprinkler-irrigation was used three times during the unusually dry growing season. Harvested in early September the sets were immediately heat-cured and placed in cool, dry storage. This trial showed that onion sets of good quality can be produced in commercial quantities under Brooks conditions. The main growers problems foreseen are:

1. Mechanization of seeding and harvesting.
2. Subsequent weed control (herbicide trials indicate some measure of success.)
3. Bulk storage facilities. Adequate air circulation and temperature controls are required.

Processing

One hundred and eighty-three varieties of vegetables were processed for freezing during the summer. They comprised 6 varieties of Broad Beans, 11 Green Beans, 9 Pole Beans, 8 Wax Beans, 5 Broccoli, 3 Brussels Sprouts, 5 Carrots, 11 Cauliflower, 60 Sweet Corn (both cob and kernel), 6 Kale, 4 Kohlrabi, 18 Green Peas, 20 Peppers, 3 Spinach, and 4 varieties of Swiss Chard. These vegetable varieties were packed in "Dry Pack" and frozen at -5°F.

Forty-three varieties of Rhubarb and Raspberries were frozen in dry sugar pack under the same conditions as the vegetables.

Canning of tomatoes and tomato catsup was added to the processing program. Forty-six varieties of new Tomato seedlings and 13 varieties of Italian paste tomatoes were used. These were stored under recommended conditions.

Taste panel evaluation will be made of the vegetable and fruit varieties and the tomato products.

Carrot Production

About three-quarters of an acre of carrots were sown in the so-called "raised-bed" culture. All weeds were controlled by herbicides, with no manual labor being employed for that purpose. From this experiment approximately six tons of carrots have been sold to wholesalers in Calgary, proving that carrots for the fresh trade can be grown and marketed in Alberta. They were readily accepted in competition with the imported carrots from British Columbia and California. Part of the carrot crop is still in storage on the Station to check keeping quality. Those marketed from storage early in December were equal to, or superior to imported carrots.



Tree and Small Fruits

In the "variety orchard" all Osman Crabapples were finally destroyed by fireblight. A "Wealthy Seedling" produced very good fruit, approximately $1\frac{3}{4}$ inches in diameter, of good color and shape. Scion wood was taken for propagation.

For rootstock purposes 148 grafted trees were planted in May. Copper wire had been tied below the graft to encourage rooting of the scion and at planting time 35 were already established on their own roots.

Of the 5,811 apple seedlings planted in 1953 from controlled crosses made at Morden, fourteen selected trees remain. These are being propagated by winter grafting for more extended tests.

The plum orchard fruited well, enabling further selections to be made. All trees, including the outstanding plum B No. 58, were pruned to encourage growth of scion wood.

Pear trees, planted in 1960, made an average growth of one foot. About 100 seedlings have been planted for propagation.

Seedling apricot trees fruited heavily and scion wood for propagation was taken from 62 selections.

Raspberries—All varieties showed tip kill or more severe winter injury, but recovered and made excellent growth. Harvest data were taken off 41 varieties and 30 were placed in the fresh frozen trials. In order, the five top yielding varieties were: Latham, Honeyking, Trent, Chief and Madawaska. A propagation plot comprised of 25 rows was set out which included eight rows of Chief and numbered varieties and crosses from Morden. In this group M-534 (now named Boyne), proved a heavy yielder.

Strawberries—A high survival rate and vigorous growth occurred in the 1960 planting of 11,081 strawberry seedlings from 50 crosses. The 35 selections made have been set out for further test. For hybridizing work 50 plants of named varieties were potted and moved to the greenhouse. In their second year, thirteen named varieties made satisfactory progress. This plot, located on alkaline soil, is being observed for varietal reaction to this major hazard of irrigated areas.

Gooseberries—Eleven thornless, 35 native, and numerous seedlings have been planted as replacements in this project. Propagation by cuttings and layering was undertaken to build up replicated trial plots.

Rhubarb—Four named varieties and approximately 2,000 seedlings from various crosses were planted to renew this project.

Ornamentals and Greenhouses

The woody ornamental block comprises almost four hundred species and varieties in groups of three. Few additions other than replacements were made this season. Most of the large lilac collection, now well established, bloomed profusely. Fourteen Japanese Cherry trees, an exotic addition to the Station, were container planted on arrival. They are in storage overwinter to ensure survival for use in hybridizing on hardy species.

After two seasons growth the Junipers, collected in 1959 at Banff, look very promising. Natural variant types collected south of Cluny in 1960 and in the Montana foothills this fall, are also being propagated.

The herbaceous perennial border and trial blocks did well. Added this year were new groups of Phlox, Delphinium, and Trollius.

All 30 named varieties in the lily collection, planted in 1959, again overwintered well and bloomed profusely. Some showed susceptibility to wind and/or heat injury. Lemon Queen, Lemon Lady and Miga were outstanding. Another twelve varieties, introductions of the late Dr. C. F. Patterson, were added to the collection. The Day-lily group is represented by four hardy varieties.

Gladiolus heat treatment tests for the promotion of earlier blooming were continued with eleven varieties this season. The University of Alberta and the Agricultural Research Station at Lacombe co-operated in this work. In addition, the entire stock of 956 varieties was given the dry heat treatment before planting. This comprised over 15,000 blooming sized corms and with increase stock, occupied two-fifths of an acre. Data collected were used to revise the gladiolus section of the "Horticultural Guide." Of the 326 variety accessions and replacements, 74% were donations from private collections.

The extremely hot summer delayed flowering of chrysanthemums resulting in the poorest floral display seen here on the 60 named varieties of "hardy mums" presently being grown. Plants overwintered in the root-house were two weeks earlier in bloom than cuttings taken from same, or than plants overwintered undisturbed outside. Mid-season varieties had just started to bloom while late varieties had not reached bloom stage when severe frost terminated growth.

REPORT OF APICULTURE SECTION

Alberta achieved the largest honey production of its history, just below 10 million pounds and while statistics are not finalized it is anticipated this will be the highest production of any province in Canada. The number of colonies operated is considerably below Quebec and Ontario but higher production per colony accounts for Alberta taking over first place in production.

The crop was 30% larger than the 1960 crop. 97% larger than the 10-year average and 60% above the 5-year average. Beekeeping, like many other agricultural enterprises, showed a trend to fewer apiarists operating larger numbers of colonies. It is also interesting to note production per colony is gradually increasing denoting more efficient management.

Weather as related to beekeeping:

One of the most significant factors in honey production is weather conditions. Cool spring weather prevented a rapid build-up of colonies, however, excellent flying weather occurred during July and August which more than offset the disadvantages

of the poor build-up weather. Beekeepers obtained the highest per colony crop in the history of the province. Drought conditions in Southern Alberta curtailed the honey flow in July, however, August honey flows materialized giving most southern areas at least an average crop.

Markets

There was considerable concern over the market situation when it became apparent a record crop would be produced, however, indications are there will be little or no surplus. Two significant marketing developments have occurred over the past two years.

- I The Canadian Beekeepers' Council was invited to send a representative to Great Britain with a trade mission. This was done. The representative was able to determine that a potential market existed in Great Britain. He also determined other significant factors as related to the export of Canadian honey to Great Britain.
- II As a result of the above mentioned findings, one of the large honey producers' co-operatives in Alberta joined with Saskatchewan and Manitoba Honey Producers Co-operatives to further explore, develop and supply the British market. There have been two significant advantages:
 1. The costs of developing the market have been shared.
 2. Continuity of supply to that export markets is reasonably assured.

There has been some decline in price received by the producer, this has been caused by a larger percentage of the total crop being exported to the eastern markets or overseas, otherwise markets remained firm.

Disease Control

Mr. Alan Frost, Chief Inspector of Apiaries, terminated his service with the Branch in July, 1961. His work was most satisfactory and his services will be missed. Mr. Roger Topping was engaged to succeed Mr. Frost. Mr. Topping brings to the service many years of beekeeping experience.

Further investigations into Nosema disease were conducted. This being a disease of adult bees it is difficult to conduct a significant survey to determine the extent of the infection and losses (see 1960 Annual Report). A limited survey of samples collected in May from packages installed in April indicated Nosema was again a significant problem in some areas. A preliminary check of some wintered colonies was started in the fall of 1961. This is the first check of Nosema in wintered colonies in Alberta. Indications are Nosema may be more serious in wintered colonies than previously considered.

Ten part-time bee inspectors were appointed.

	1960	1961
Number of colonies inspected	8,491	7,230
Number of apiaries inspected	901	468
Number of diseased colonies		
(American Foulbrood)	371	458
(European Foulbrood)		17

In two areas minor outbreaks of American foulbrood occurred, the outbreaks in part at least were traced to the use of insoluble sulphur drugs. The sodium preparation of sulphur has been recommended but in both cases beekeepers did not specify the sodium preparation and were given insoluble sulphur which did not dissolve in feed, hence no protection was provided.

No serious outbreaks of European foulbrood were reported in 1961. Seventeen isolated cases occurred.

Statistics

	†1960	*1961
Number of colonies	54,900	58,122
Number of beekeepers	1,670	1,550
Average yield per colony (lb.)	138	165
Total honey production (lb.)	7,576,000	9,900,000
Value of honey ('000 dollars)	1,136,000	1,435,500
Value of wax and honey ('000 dollars)	1,183,700	1,518,800
Price of honey per pound	15c	14.5c
Price of wax per pound	42c	42c

†—1960 figures final

*—1961 figures—preliminary estimates

Extension

Increased costs of production, which have netted lower returns to the producer have necessitated more detailed studies and extension on the economics of beekeeping. A decline in numbers of beekeepers operating relatively small units (below 100 colonies) has been noted. There has been an increase in the number of beekeepers operating over 100 colonies. A marked increase was noted in enquiries by individuals and groups for information on all aspects of beekeeping as a commercial enterprise.

REPORT FOR SPECIAL PROJECTS

Seed Cleaning Plants were again the main project for 1961. New Plants were built at Craddock, Carstairs and Bentley. Basically the Plants were constructed on the same plan except for ribbed aluminum replacing the cedar siding. One bin in the last Plant was lined with plastic sheets on an experimental basis.

The following is a summary of the work done by the 41 Municipal Plants for the fiscal year ending June 30th, with figures for the two previous years also shown.

	1958-59 (29 Plants)	1959-60 (34 Plants)	1960-61 (41 Plants)
Total Commercial Seed Cleaned	4,998,847	5,941,966	7,536,685
Total Pedigree Seed Cleaned	171,184	158,419	177,897
Total Dockage Cleaning	631,305	322,266	875,943
Total Grain Cleaned	5,801,336	6,422,651	8,590,525
Total Seed Treated (fungicide)	1,662,796	1,795,065	2,804,457
Total Seed Treated (wireworm)	252,773	312,190	581,972
Average Bushels Cleaned Per Plant	200,046	189,000	209,525

The 41 Plants served approximately 15,000 farmers during the fiscal year.

The Government and Municipal grants remained at \$17,000.00 each, and for the first time the cost of the Plants remained almost the same as in the previous year.

Six Co-operative Associations were established during the year with plans to build during the next two summers. Research was continued to prepare for less expensive seed cleaning facilities in localized or less populated areas where standard plants would not be economically feasible.

The policy and program for the construction and operation of Plants still remains at the high level and most Plants showed a gain of production and service.

Permits for the operation of Seed Cleaning Plants in the Province were again issued after classification by the Field Supervisors of the Agricultural Service Boards.

Interest in a Vegetable Processing Plant for the irrigated area of southern Alberta resulted in the formation of a Co-operative Association for the purpose of establishing a plant to assemble, grade, process and package vegetables for the fresh produce trade. The necessary type of warehouse and equipment is being investigated further.

CROP CLINIC

A Crop Clinic was established adjacent to the Veterinary Laboratory for the purpose of providing a diagnostic service on plant and animal specimens, insects or disease that may be submitted by farmers, to District Agriculturists or other Department personnel throughout the province. Previously no organized service was provided and research personnel at the University and at Experimental Stations volunteered diagnostic assistance at the expense of time in conducting their own investigations.

Mr. D. Stelfox previously associated with Crop Protection and Pest Control was appointed to the new position, Supervisor, Crop Clinic, on April 1st.

Weed Identification

The majority of plant specimens, as expected, were received in the four-month period June - September. Very few of the weeds examined would be classed as noxious. Most of the specimens were gathered by farmers and weed inspectors on fields, pastures and roadsides. A few were submitted by town gardeners. Thirteen specimens of weeds poisonous to livestock were identified. All of these had caused, or could have caused, death to livestock. A few wild fruits, shrubs and mushrooms were identified. Following is a breakdown of specimens received:

	Weeds			Other Plants		
	Field and	Garden and		Fruits and		
Roadside	Pasture	Lawns	Poisonous	Shrubs	Mushrooms	Total
100	93	37	13	15	3	261

Horticultural Specimens

Ornamentals, indoor and outdoor types, accounted for more than one half of the specimens received. These plants, often grown in confinement, appear to be susceptible to a wide range of disease and insect pests. Fireblight as it affects apples, mountain ash and pears is becoming more widespread. Two rather serious diseases, as yet not positively identified, appeared frequently on red elder and northwest poplar. Specimens received and identified were classified as follows:

	On Ornamentals	On Gardens and Lawns	On Fruits	Total
Insects	66	12	15	93
Disease	51	32	20	103
Other Pests	1	5	1	7
	<u>118</u>	<u>49</u>	<u>36</u>	<u>203</u>

Field Crops Specimens

The extremely hot dry weather in early June resulted in a rash of cereal crop plants suffering from heat damage. A continuation of excessively high temperatures caused considerable injury to potatoes. Shelterbelt trees showed effects of the prolonged drought and many specimens received were evidence of this lack of moisture. Red turnip beetles, flea beetles and wireworms evidently were very active in oil seed and cereal crops, as indicated by the frequency of specimens received. Grey speck, a mineral deficiency in oats, showed up strongly. Tent caterpillars and webworms caused considerable defoliation, but only temporary damage to shelterbelts in east-central and northern Alberta. Three clover specimens attacked by a previously unreported virus disease (Phyllody) were received from west-central Alberta. The following figures indicate the type and numbers of crop specimens received:

	Field and Pasture	Field Shelterbelts	Stored Products	Beneficial or Harmless	Total
Insects	49	48	6	25	128
Disease	89	16	0	.....	105
Other Plants	5	2	1	.....	8
	<u>143</u>	<u>66</u>	<u>7</u>	<u>25</u>	<u>241</u>

Household Pests

Clover mites, strawberry root weevil and Manitoba maple bugs, all harmless, were the most frequent unwanted visitors in homes. Flour and carpet beetles were the next most common household insects received. Occasionally, they had been quite destructive. Categorically the household pests received were as follows:

	In Foodstuffs	On Furniture and Clothing	Harmless	Total
Insects	24	10	42	76

Miscellaneous

The Supervisor attended 10 meetings and 2 conferences. Ten field investigational trips on disease, insect and rodent problems plus 8 demonstrations with newer rodent repellents were undertaken. In addition, numerous letters of enquiry concerning a variety of farm pest problems were answered. Dozens of telephone enquiries, mostly from urban gardeners, received attention.

Report of Livestock Branch

1 9 6 1

W. H. T. MEAD, Livestock Commissioner
W. C. GORDON, Livestock Supervisor (Cattle)
A. J. CHARNETSKI, Livestock Supervisor (Sheep and Swine)
I. A. COLES, Supervisor of Feeder Associations
J. S. LORE, Livestock Supervisor (Performance Testing—Cattle)
J. J. KALLAL, Livestock Fieldman (Cattle)
S. B. CLARKE, Brand Recorder
W. S. BALDWIN, Livestock Investigator (Stockyards)
J. BELZER, Livestock Investigator (Dealers and Butchers)
H. M. LINK, Chief Clerk (Supervisor of Pounds)

Outstanding features of the year were uncertainties surrounding the pasture and feed grain supplies caused by severe drought in the Southern and East Central sections of the Province, and the more liberal outlet and corresponding price increase for feed grains.

Cattle prices ranged at or below 1960 levels through most of the year but recovered sharply in October and November to levels of \$2.50 to \$3.00 over the previous year. Record marketings in the fall months were met by active demand, principally from U.S. and Eastern Canadian orders. While greater numbers were available, fewer cattle went into Alberta feedlots than in 1960, due to the combination of factors mentioned. The key to this situation was the adjustment to higher feed grain prices following a number of years of feed grain surplus and depressed prices.

Weekly hog marketings were well below the corresponding weeks of 1960 until April, remained approximately the same for May, June, July and August and then increased sharply through September and October and dropped back through November and December. However, the increase in the last half took place in Western Canada only. Prices ranged around \$25.00 for grade A at Edmonton, with a high of about \$26.80 in February and a low of about \$23.00 in December. The general average was about \$2.50 greater than the previous year. The prospect of price encouraging increased numbers, was tempered by the feed grain price situation.

Alberta lamb marketings increased approximately 25% over the previous year and the price structure for both finished and fat lambs was continuously pegged at the support price level. Prices at the Southern fall sales of ewes were about \$5.00 to \$6.00 per head less on good young ewes than in the previous year. About 12,000 ewes went from Southern Alberta to the Eastern Provinces.

CATTLE

Following a mild winter, cattle went into the spring of 1961 in good condition.

Poor moisture conditions, particularly in the South Eastern part of Alberta resulted in poor pastures throughout the year. However cattle condition remained fair to good.

There has been some movement of feed into South Eastern Alberta and an earlier and greater movement of cattle to market from this area.

Cattle and calf population was estimated at 2,885,000 at June 1st, 1961, which was 7.1% higher than the June 1st, 1960, estimate.

Stock inspection figures indicated a 15% increase in marketings compared to 1960.

Cattle and Calf Shipments out of Province

	1957	1958	1959	1960	1961
British Columbia	106,308	92,641	73,267	82,831	71,275
Saskatchewan	780	1,316	1,408	4,619	8,933
Manitoba	20,606	16,695	23,881	25,463	14,657
Ontario	56,772	52,838	52,569	77,423	98,727
Quebec	35,131	21,039	15,684	15,267	3,017
Nova Scotia	45	613	377	1,492	1,675
New Brunswick					
United States	108,957	200,882	72,928	45,112	110,502
New Foundland					
Prince Edward Island					
Total	328,599	386,024	240,114	252,207	308,786

Purebred breeders sold 3,159 beef bulls through 29 consignment sales. Sales were held at Grande Prairie, Olds (two), Calgary, Edmonton, Innisfail, Red Deer, Camrose (two), Mayerthorpe (two), Stettler, Claresholm, Vermilion, Lloydminster, Hardisty, St. Paul, Cardston, Brooks (two), Taber, Cereal, Lacombe, Medicine Hat, High River (two), Lethbridge (two), and Drumheller.

Breed	No. Sold	Total Value	Average Price
Hereford	2,342	\$1,179,309.50	\$504.00
Aberdeen Angus	431	203,635.00	472.00
Shorthorn	386	153,760.00	398.00

The average price of bulls sold through sales was approximately \$60.00 per head more than in 1960.

Cattle Improvement Policy

The assistance to eligible applicants under this policy was reduced from 20% and a maximum of \$75.00 to 10% and a maximum of \$50.00, effective July 1st, 1961. There were no other changes in terms or conditions.

The following table shows the placement of bulls for the past five years:

Year	Policy "A"	Policy "B"
1957	572	
1958	642	1,058
1959	1,484	1,401
1960	1,911	1,690
1961	1,961	1,686

Under the "A" Section of this policy 107 bulls were selected and purchased by the Department; 1,854 bulls were selected by

applicants subject to approval as to quality by a Department representative.

Federal-Provincial Beef Cattle Performance Testing Program

This program was initiated in the fall of 1959 and the procedure through which it came into being can be found in the 1959 Annual Report.

An annual report of the Alberta Section of the Federal-Provincial Beef Cattle Performance Testing Program is printed at the termination of each year's results in June. Copies of the first two reports can be obtained from the Livestock Branch.

The following table shows the extent of participation by purebred breeders in the first three years.

Year	No. of Herds	Male Calves Weighed	Female	Total Calves Weighed
			Calves Weighed	
1959	52	489	364	853
1960	63	987	823	1,810
1961	60	1,112	1,015	2,127

Eight new herds entered the program this year, but these were more than offset by losses from 6 herd dispersals and 5 herds from other causes.

A meeting of the Alberta Advisory Committee on Performance Testing was held in February. Regulations for performance testing were altered to include any breed of beef cattle registered under the provisions of the Livestock Pedigree Act of Canada. All calves tested must be eligible for registration.

The Alberta Beef Cattle Performance Association made application to the Department for the part time services of the Supervisor of the Performance Testing Program in an advisory capacity. The Minister approved the request and 7 of their members were visited.

The Minister also approved the appointment of a member of the Alberta Beef Cattle Performance Association to the Alberta Advisory Committee on Performance Testing.

TORONTO ROYAL AGRICULTURAL WINTER FAIR

The 1961 Toronto Royal Agricultural Winter Fair was held November 10th to 18th. The Alberta exhibit comprised 23 carloads of livestock which were shipped via C.P.R. leaving Edmonton November 1st and Calgary November 2nd.

The shipment included 35 single steers, 6 carload lots of 12 steers, 6 groups of 5 steers, 47 head of beef breeding stock, 43 dairy cattle, 14 dual purpose cattle, 41 hogs, 96 sheep, 6 light horses and 15 draught horses.

The arrangement whereby freight charges are borne by the Canada and Alberta Departments of Agriculture continued in force.

The following table summarizes prizes won by Alberta exhibitors:

	Horses	Beef Cattle	Market Cattle	D.P. Cattle	Dairy Cattle	Sheep & Wool	Swine	Total
Grand Champion		1	1				1	3
Reserve Grand Champion		1	1		1	1		4
Champion	1	3	5	1	1	6	1	18
Reserve Champion		1	3		2	1		7
First Prize	4	9	12	3	4	14	6	52
Second Prize	8	5	7	1	2	16	2	41
Third Prize	11	6	10	3	5	13	5	50
Fourth Prize	10	7	4	4	2	12	4	43
Other Prizes	10	26	14	4	15	43	13	125
Total	41	59	57	16	32	106	32	343

Outstanding Achievements:

Leo Halstead, Carbon—Champion Shorthorn and Grand Champion Steer
 T. J. Noad, Olds—Champion Grade and Crossbred and Reserve Grand Champion Steer
 T. J. Noad, Olds—Champion carload steers
 T. J. Noad, Olds—Champion Angus steer
 Byers Flour Mills, Camrose—Reserve Champion carload steers
 Byers Flour Mills, Camrose—Champion group of five steers
 T. J. Noad, Olds—Reserve Champion group of five steers
 C. J. Kallal & Sons, Tofield—Grand Champion Hereford female
 C. J. Kallal & Sons, Tofield—Premier Hereford Exhibitor
 Stuart Fenton, Irma—Premier Hereford Breeder
 Bailey Farms Limited, Clover Bar—Reserve Senior Champion and Reserve Grand Champion Holstein female
 John Wilson Jr., Innisfail—Champion Hampshire ram
 P. J. Rock & Son, Drumheller—Champion Suffolk ewe
 P. J. Rock & Son, Drumheller—Champion North Country Cheviot ram
 John Wilson Jr., Innisfail—Champion Corriedale ram
 John Wilson Jr., Innisfail—Champion Corriedale ewe
 P. J. Rock & Son, Drumheller—Premier Sheep Exhibitor
 John Wilson Jr., Innisfail—Champion Range Wool Fleece and Reserve Grand Champion Fleece
 Russell F. Yurkiw, Radway—Grand Champion Tamworth Female and Supreme Tamworth of the Show

LIVESTOCK FEEDER ASSOCIATIONS

In the 1960-61 season 36 associations operated under the Feeder Association Guarantee Act. These associations had 1,262 active members who utilized a credit of \$4,684,108.24 and fed 41,743 cattle and 23,730 lambs.

All loans under the 1960-61 Guarantees were repaid.

Cattle feeding operations were satisfactory, but lamb feeding was very unsatisfactory due to market conditions.

Three new associations were organized in the Rycroft, Grande Prairie, and Vegreville area at the start of the 1961-62 season.

Orders-in-Council 897/61 and 1149/61 provided for the Provincial Treasurer to implement the 1951-52 Guarantees to Bowden, Horse Shoe Lake, Innisfail, and Raven feeder associations in the amount of \$14,491.39.

1960-61 Feeder Association Operations:

Association	No. of Members	No. of Cattle	No. of Sheep	Credits \$
Acme	34	1,397		145,104.22
Andrew	18	491		44,204.21
Bashaw	67	1,933	930	217,424.21
Battle River	55	1,954	191	247,109.90
Big Rock	11	367		40,968.59
Big Valley	40	1,522		153,661.36
Bowden	22	809		107,383.25
Bow Valley	28	694	4,187	103,343.13
Cardston	25	875	650	85,757.22
Carstairs	41	1,434		172,454.93
Central Alberta	65	2,364	768	227,852.70
Cypress	6	174		18,682.97
Drumheller	33	833		102,760.34
East Bow Valley	27	903	1,664	102,841.87
East Central	50	2,100	1,202	236,333.53
East Olds	32	892	298	99,316.24
Hays	26	597	2,914	84,111.78
Highwood	14	382	541	49,024.77
Horse Show Lake	28	859		105,088.78
Innisfail	31	899		102,068.71
Knee Hill Valley	56	1,544		253,904.77
Little Bow	29	1,110		113,181.18
Mannville	36	1,027		85,528.01
Marwayne	60	1,943		195,204.50
Meadowbrook	35	1,484		163,156.82
North Peace	63	1,235		124,540.83
Okotoks	10	329		40,540.24
Parkland-Stavely	26	1,211		110,412.14
Ponoka	42	988		120,939.89
Raven	54	2,145	160	231,358.50
Raymond-Magrath	17	810	360	67,044.87
Red Deer	38	1,655		179,548.36
South Slope	33	1,102	4,350	140,763.24
Taber	18	676	1,308	91,880.54
Tilley-Rolling Hills	48	1,266	4,007	126,208.88
Western	44	1,739	200	194,402.76
Total	1,262	41,743	23,730	4,684,108.24

Summary of Feeder Association Operations covering the past five years:

Feeding Season	No. of Associations	No. of Members	Cattle	Sheep	Amount of Credit
1956-57	29	834	23,124	10,585	2,008,057.61
1957-58	32	844	24,507	14,514	2,351,826.26
1958-59	34	876	21,707	9,623	2,803,826.05
1959-60	33	1,201	37,194	13,350	4,303,155.09
1960-61	36	1,262	41,743	23,730	4,684,108.24

ARTIFICIAL INSEMINATION

It is estimated that approximately 75,000 cows were bred artificially compared to 64,000 in the previous year. The number of herds using A. I. was approximately 8,000. New co-operative units were organized under the Department's assistance policy at Evansburg, Wainwright and St. Paul. The St. Paul unit completed its organization and surveys in December. Small privately operated units were started at Standard, Bonnyville, Edmonton and Red Deer.

A. I. breeding of range cattle spread into new areas at Nanton and Claresholm, but numbers of range bred cows were not substantially more than the previous year.

The Ontario Association of Artificial Breeders' semen sales committee met at Edmonton and Calgary in April with officers of the Department and various Alberta units, and with members of a rancher group. This Association purchased 8 Hereford and 1 Shorthorn bull at the Calgary bull sale after selection by the ranchers committee. Agreement was reached concerning a program whereby these bulls would be progeny tested by calves from co-operators' herds.

The Department arranged a technician short course which was held in April and attended by 22 technicians from 16 A. I. units. Dr. S. W. McKay of the Oxford Unit, Woodstock, Ontario, was the main lecturer. Members of the Livestock, Dairy, and Veterinary Services Branches also assisted with lectures. The co-operation of the Oxford Unit in making Dr. McKay's time available is hereby acknowledged.

The Livestock Commissioner and Supervisor of Dairy Cattle Improvement attended many meetings with A. I. groups. These concerned annual meetings, meetings of organization, special A. I. extension and bull selection.

Use of liquid nitrogen as the semen freezing agent was used for the first time in Alberta under field conditions on a limited scale.

DAIRY HEIFER CALF POLICY

A definite period for the pick-up and delivery of calves was established at from August 1st to December 31st. The price of calves was increased from \$40.00 to \$50.00 at May 11th. A total of 347 calves were supplied to 31 clubs and all orders were filled by December 1st. The calf supply was the best since this policy was started.

SWINE

Alberta swine producers had a reasonably good year. The average price for grade "A" hogs remained well above the \$22.65/cwt. floor deficiency minimum set by the Federal Price Stabilization Board. Alberta inspected hog marketings were 1,659,909 head compared to 1,764,695 in 1960. This was approximately 28% of the total Canadian marketings. There was a marked improvement in the quality as 27.4% graded "A" compared to 22.4% in 1960. The change in the Federal hog premiums made in October 1960 resulted in greater attention to market finish and weights.

The Record of Performance program of swine testing in Alberta for 1960 - 61 (to March 31st, 1961) showed 148 litters tested with average maturity of 173 days on 435.5 pounds of feed per 100 pounds dressed weight, and average R.O.P. score of 72.7. Pigs from the test litters graded 60.6% A, 35.7% B, and 3.7% C.

The Record of Performance Sow Assistance Policy was continued under the same conditions as in the previous year.

The Healthy Herd Swine Program established in 1960 under the jurisdiction of the Director of Veterinary Services continued

to grow and made good progress. Details of its operation will be found in the Veterinary Services Report.

Swine Improvement Policies "A" and "B" and the Livestock Listing Bureau were continued in 1961. Policy "A" and "B" were revised to limit the bonus payment of \$10.00 to those boars which sold at a price of \$70.00 or more. No bonus was paid on any boar selling at less than \$70.00. The revised Policy "B" applied to all 1961 approved swine sales, and Policy "A" to boars handled after March 31st. The Livestock Listing Bureau did not provide for bonus or shipping charges but, as in previous years, provided service in locating breeding stock and arranged for purchase and shipment. This service was used mainly by purebred breeders and those commercial breeders not eligible to come under Policy "A" or "B".

A total of 22 purebred approved swine sales were held during the year. At the request of sales organizations Policy "B" applied to all of these sales:

Price Average Covering All Alberta Sales

Boars	1960		1961	
	Number	Av. Price	Number	Av. Price
Yorkshire	442	\$102.22	606	\$ 92.43
Tamworth	33	83.18	8	81.25
Landrace	56	91.86	35	81.14
Lacombe	25	146.90	86	98.40
Total and Average	556	\$102.06	735	\$ 92.47
Sows				
Yorkshire	486	\$ 83.26	703	\$ 92.35
Tamworth	37	75.13	18	84.03
Landrace	49	99.23	46	83.64
Lacombe	23	115.22	84	96.99
Total and Average	595	\$ 85.30	851	\$ 92.16

Average Price for all Swine Breeds at Calgary and Edmonton Sales

	1960		1961	
	Number	Av. Price	Number	Av. Price
Boars	356	\$106.42	362	\$104.48
Sows	397	92.69	505	99.56

Price Average for regional sales only (not R. O. P.)

Boars	1960		1961	
	Number	Av. Price	Number	Av. Price
Yorkshire	189	\$ 91.29	293	\$ 79.48
Tamworth	2	98.75	2	55.00
Landrace	9	111.61	14	60.89
Lacombe .....	.....	.....	36	88.68
Total and Average	200	\$ 92.33	345	\$ 79.54
Sows				
	1960		1961	
	Number	Av. Price	Number	Av. Price
Yorkshire	180	\$ 70.48	268	\$ 81.88
Tamworth .....	.....	.....	4	66.87
Landrace	16	72.50	19	80.92
Lacombe	2	78.70	33	80.91
Total and Average	198	\$ 70.68	324	\$ 81.54

Average Prices at Camrose R. O. P. Swine Sales

Boars	1960		1961	
	Number	Av. Price	Number	Av. Price
Yorkshire	21	\$113.33	23	\$ 94.46
Lacombe	3	105.83	5	106.00
Total and Average	24	\$112.40	28	\$ 96.52
Sows				
Yorkshire	22	\$ 86.02	21	\$ 79.28
Lacombe	8	90.63	1	70.00
Total and Average	30	\$ 87.25	22	\$ 78.86

The following statistical data cover swine policy activities, hog gradings, marketings, values, and purebred swine sales:

Swine Placed under Improvement Policy "A" and Livestock Listing Bureau

Year	L.L.B.		Policy "A"	Total
	Gilts	Boars	Boars	Boars
1957	6	26	213	239
1958	9	19	234	253
1959	11	15	257	272
1960	3	27	264	300
1961	10	24	186	210

This total includes 147 Yorkshires, 53 Lacombe, 5 Tamworth and 5 Landrace.

Bonus Payment on Policy "B" boars at all eligible Sales

Bonus levels: Boars selling at \$70.00 or more are bonused at \$10.00 per head.

	1958	1959	1960	1961
Number of boars bonused	430	288	370	376

Record of Performance Sow Bonus Policy

Number and breed of sows qualifying for bonus:

	1959	1960	1961
Yorkshire	84	43	22
Landrace	3	5	.....
Lacombe	4	9	20

Alberta Hog Gradings for Years 1957 to 1961

Grade	1957	1958	1959	1960	1961
	%	%	%	%	%
A	20.70	21.40	22.30	22.40	27.40
B1	40.90	41.10	49.30	47.60	45.40
B2	3.70	3.60	.....	.....	.....
B3	6.10	6.40	.....	.....	.....
C	15.50	13.70	13.80	15.20	11.60
Light	1.40	1.40	2.60	3.10	2.80
D	0.60	0.70	1.30	0.90	.90
Heavy	2.90	3.00	2.50	4.20	3.90
Extra Heavy	2.50	2.60	1.80	1.70	1.70
Injured .....	.....	.....	.....	.....	.....
Rdlg.	0.50	0.60	0.50	0.50	0.50
Stags	0.50	0.50	0.60	0.60	0.60
Sows	4.70	5.00	5.30	3.80	5.20

Number and Value of Alberta Hogs Sold at Inspected Plants

Year	Total Number	Value per Pig	Total Sale Value
1957	1,432,157	\$ 44.97	\$ 64,413,949.00
1958	1,812,186	41.17	74,618,843.00
1959	2,265,430	32.99	74,729,118.00
1960	1,764,695	32.76	57,809,266.00
1961	1,659,909	.....	.....

Estimated Number of Swine on Alberta Farms at June 1st

Year	Number
1957	1,300,000
1958	1,710,000
1959	1,780,000
1960	1,385,000
1961	1,540,000

SHEEP

Interest in sheep expansion continued throughout many central and northern parts of the province. It is estimated that about 2,500 range ewes from southern Alberta went to new owners in the northern areas. These were mainly older ewes because Alberta buyers found it difficult to compete for young, top quality ewes with buyers from other provinces, who had the advantage of a Federal-Provincial freight assistance policy.

Demand for good purebred rams was not as strong as last year. Market instability created by lamb imports at prices below domestic production costs had a depressing effect on the whole industry.

A Federal Government lamb bonus policy came into effect on August 14th. It provided for bonus payments of \$2.00 and \$1.00 respectively on choice and good lamb carcasses. To qualify for this bonus, lambs must be identified as to producer, slaughtered and graded in Government inspected plants and the carcasses must weigh not less than 36 lbs., or more than 51 lbs. The Federal Government continued its stabilization support price on two grades of lamb, choice and good, dressing 36 to 51 lbs. The support in Alberta remains at \$16.10 per cwt. live basis, or \$32.85 dressed basis. Considerable quantities of Alberta lamb was placed in storage at support price level, to the account of the meat stabilization board.

Fourteen Sheep Shearing and Sheep Management Schools, at which a total of 506 persons attended, were held during the year. Thirteen were held in Alberta and one in British Columbia at the request and expense of the British Columbia Department of Agriculture. The Schools were held at the following widely separated points: Lethbridge, Bow Island, Brooks, Delburne, Halkirk, Elk Point, Cherry Grove, Winfield, Wetaskiwin, Duffield, Barrhead, Grande Prairie, Bay Tree, Rose Prairie, B.C.

Instruction in power shearing was given in southern areas, and power and hand shearing were both offered in northern areas. Shearing instructors were William Payne of Cardston, and H. A. Sams of Rochester. The sheep management part of the school was conducted by A. J. Charnetski, assisted by Robert Shopland of the Canadian Co-operative Wool Growers Association and included selection of breeding stock, winter feeding and management, lambing, creep feeding, pastures and pasture rotation, lamb marketing, flock preparation for breeding and lambing. It also included demonstrations and practice in castration, docking, treating for worms, spraying for ticks and simple treatments of udder troubles, etc. All schools were of one-day duration and ran from May 15th to 31st. Mr. Shop-

land's co-operation and assistance in conducting these schools was greatly appreciated and is hereby acknowledged.

Several sheep meetings were held during the year and considerable correspondence was required in dealing with various sheep management and housing problems.

It is estimated that about 57,000 lambs went into feedlots, compared to about 70,000 in the previous year. This situation manifests the general uncertainty of price and general pessimism in the industry.

The 1961 Alberta wool clip amounted to 2,542,000 lbs. with an average of about 9.0 lbs. per head. The Federal wool deficiency support price remained at 60 cents per lb. f.o.b. Toronto. The average market returns on 1961 wool was approximately 30 cents per lb. which would provide for an average deficiency payment of about 22 cents, depending on wool grade, or a total of about 52 cents net to the Alberta producers.

The Calgary summer purebred sheep sale offered 48 head of which only 24 head were sold. The averages were: 9 Suffolk rams at \$214.00, 11 Suffolk ewes at \$86.82, and 4 North Country Cheviot ewes at \$66.66 per head. No bids were offered on Hampshire, nor on North Country Cheviot rams.

Arrangements were completed between the Branch and the School of Agriculture farms at Olds, Vermilion and Fairview, to set up a six flock cross breeding demonstrational program. This program calls for Record of Performance tests in each flock, various two-way and three-way crosses and lamb carcass evaluation of the various crosses. Original matings of the initial crosses were made in October. The program is designed to run for a minimum of three years.

Record of performance work started in 1960 in a number of private flocks, was continued.

Sheep Improvement Policies "A" and "B" operated as in past years. Statistics on its operations are tabulated in this report elsewhere.

Reports covering Calgary and Edmonton Sheep Sales, also on the operation of Sheep Improvement Policies "A" and "B", and the Livestock Listing Bureau are tabulated hereunder:

Composite summary of purebred sheep sales at Calgary, Edmonton, Sangudo and Drumheller:

	1960		1961	
	Number	Av. Price	Number	Av. Price
Rams				
Suffolk	125	\$ 47.78	78	\$ 55.54
Hampshire	44	47.84	23	43.15
Border Cheviot			1	35.00
North Country Cheviot ..	53	53.87	23	64.13
Corriedale	41	56.10	9	41.66
Southdown	3	41.66	8	40.62
Oxford	9	51.39	2	37.50
Leicester	2	41.50		
Columbia			2	42.50
Total and Average	277	\$ 50.27	146	\$ 52.70

Ewes

	1960		1961	
	Number	Av. Price	Number	Av. Price
Suffolk	41	\$ 34.32	57	\$ 32.75
Hampshire	2	23.00	.....	.....
North Country Cheviot ..	6	74.58	9	48.32
Corriedale	13	43.65	.....	.....
Southdown	8	38.13	4	35.00
Oxford	5	22.00	9	25.55
Total and Average	75	\$ 38.44	79	\$ 33.82
Grade ewes	14	\$ 20.57	96	\$ 14.03

The following table shows sheep placed under the Live-stock Listing Bureau and Sheep Improvement Policy "A":

Year	L.L.B.		Policy "A"	Total
	Grade Ewes	Rams	Rams	Rams
1957 .....	.....	2	62	64
1958	110	6	73	79
1959	276	8	91	99
1960	140	6	93	99
1961	120	13	56	69

1961 Ram placement consisted of:

21 Suffolk	3 Rambouillet
2 Romnelet	2 Targhee
13 N. C. Cheviot	10 Hampshire
7 Columbia	2 Southdown
9 Corriedale	

Policy "B" Rams qualifying for bonus at all eligible Alberta ram sales:

Year	A Grade Rams		B Grade Rams		Total
	@ \$12.00		@ \$8.00		A and B
	No.	No.	No.	No.	Grades
1958	51	29			80
1959	58	28			86
1960	52	64			116
1961	36	38			74

Average Ram Prices, by grades, at Calgary and Edmonton Sales

	CALGARY				EDMONTON			
	1960		1961		1960		1961	
"A" Grade	No.	Av. Price	No.	Av. Price	No.	Av. Price	No.	Av. Price
"B" Grade	83	\$62.38	49	\$55.97	30	\$54.83	30	\$66.66
	56	44.64	21	44.76	45	46.61	40	45.44

Average Price of All A and B Graded Rams—Calgary and Edmonton Sales

	1960		1961	
	No.	Av. Price	No.	Av. Price
"A" Grade	113	\$60.38	79	\$60.04
"B" Grade	101	45.52	61	45.20

Number and Value of Alberta Sheep and Lambs Sold at Inspected Plants

Year	Total No. Sold	Value per Head	Total Sales Value
1959	161,899	\$ 15.77	\$ 2,554,176.00
1960	159,602	15.36	2,451,654.00
1961	Not Available		Not Available

Estimated Number of Sheep in Alberta at June 1st

1957	450,000
1958	470,000
1959	530,000
1960	555,000
1961	554,000

HORSES

The horse population was estimated at June 1st to be 107,000, a reduction of 8,000 from the previous year. The four main outlets for horses were special sales at Class "D" Stockyards; one sale at the Exhibition Grounds, Calgary; the horse slaughter plant at Edmonton; and a small trade in bush horses to the wood pulp area at Hinton. Export to Eastern Canada and the United States remained about the same at approximately 1,400 head. The horse slaughter plant at Swift Current, Saskatchewan, was closed down in October. This resulted in about 2,400 horses of Saskatchewan origin being slaughtered at Edmonton. Horses sold through Class "D" Stockyards totalled 8,200 head; the Calgary sale handled 1,100 and the horse plant at Edmonton slaughtered about 6,000 head of Alberta origin.

Breeding and trade was active in light horses and ponies. Breeding of heavy horses has almost come to a stop.

ALBERTA LIVESTOCK AND LIVESTOCK PRODUCTS ACT

Stockyards and Stockyard Licensing

Four hundred and thirteen licenses were issued in 1961, a reduction of 37 from 1960, chiefly due to exemption or discontinuance by operators of "G" Class stockyards.

Twenty licenses were altered owing to change of ownership, reclassification or discontinuance resulting in 393 licensed stockyards being in operation to December 31, 1961. However, Class "D" stockyards (auction markets) showed a sharp increase of 14 new establishments at the following points: Berwyn, Daysland, Evansburg, Fairview, Killam, New Sarepta, Smoky Lake, Stony Plain, Rimbey, Thorhild, Thorsby, Vegreville, Warburg, and Empress.

Empress was reclassified from a "G" to a "D". Four "D" licenses were cancelled due to termination of leased premises from licensed owners.

The following table shows licenses issued by classes:

Class	B	C	D	E	F	G	Total
Number	10	46	53	3	4	297	413

A total of 49 Class "D" stockyards were in operation at December 31st.

Class "D" stockyards (auction markets) continued to increase the number of livestock sold, as the following table indicates:

	1957	1958	1959	1960	1961
Cattle and calves	101,843	131,508	164,477	267,612	350,020
Hogs	127,463	238,355	271,211	224,521	303,416
Sheep	8,749	13,772	15,724	29,014	32,224
Horses	3,055	4,798	6,481	8,940	8,200
Total	241,110	388,433	457,893	530,087	693,860

Class "E" and "F" stockyards (community cattle auctions) operated at Pincher Creek, Lundbreck, Pakowki, Park Bend, Coronation, Walsh and Lea Park. Thirty-eight such sales handled

24,812 head of cattle compared to 30,900 in the previous year. The reduction in numbers handled was the direct result of increased activity by Class "D" stockyards.

Livestock Dealers and Dealers' Agents

Regulations were altered to require a minimum bond of \$10,000 for livestock dealers employing agents; for companies or co-operatives with limited liability; and for non-residents. The minimum bond for all other dealers was set at \$5,000.

Dealers and agents licensed totalled 823 compared to 731 in the previous year, an increase of 11%.

The bonds of two dealers in the total amount of \$11,609.00 were recalled because of non-payment to producers.

There were ten prosecutions for dealing in livestock without the required bond and license.

A number of general investigations were carried out by Branch personnel as the result of various complaints by producers, auction operators, and shippers with respect to livestock trading practices.

RECORDING OF BRANDS

Interest in recording and maintaining livestock brands remained relatively high. This is due to increased cattle numbers; increased community pasture activity; development of roads into hitherto relatively inaccessible areas, which coupled with high-speed transport has greatly increased the possibility of loss by theft.

Following is a statistical summary of brand office activity:

	Cattle	Horses	Sheep	Poultry	Fox	Total
New Brands Issued	1,912	278	3	2	.....	2,195
Transfers registered	370	53	.....	.....	.....	423
Certified extracts issued	2	1	.....	.....	.....	3
Brands renewed	6,034	690	4	1	.....	6,729
Brands cancelled	316	29	.....	.....	.....	345
Total	8,634	1,051	7	3	.....	9,695

The number of brands in good standing as at December 31st:

Cattle	30,967
Horses	3,992
Sheep	29
Poultry	12
Fur bearing	1
Total	35,001

In addition to brand renewals forwarded there were 3,345 letters written during the year dealing with the above and with the illegal use of unregistered brands.

STOCK INSPECTION ACT

Stock inspections reached an all time high of 1,454,252 head inspected on all markets and direct on export. This was 15% increase over the previous year.

Inspections of cattle returned to feedlot, cover crop and pasture from Class "A", "E" and "F" stockyards was down about 5% at 207,985 head. Total "in" and "out" inspections covered 1,662,237 head compared to 1,477,762 head the previous year.

Inspections were conducted at 41 different sale points in addition to the stockyards and packing plants at Edmonton, Calgary, and Lethbridge. A new packing plant was opened by Canada Packers Limited at Lethbridge in January, and the addition of this plant brings the total inspection points in the three cities to 14, and an overall total of 55 different points where regular inspections were conducted. Considerably more than normal number of country inspections were conducted to clear export shipments.

It was necessary to obtain the services of 21 deputy brand inspectors to service the markets not normally serviceable by full time staff.

A new full time office was established at Medicine Hat on April 1st and inspector L. B. Halmrast was transferred from Lethbridge to conduct inspections in the Medicine Hat area and operate that office. As this area had previously been inspected by the R.C.M. Police, placing a full time inspector at Medicine Hat has confined R.C.M. Police inspection duties to isolated inspections, largely on direct export shipments.

Approximately 2,000 head of stock were held up for further investigation of ownership. All were cleared by inspectors but 33 which were handled by investigations conducted from Branch headquarters.

Decentralization of cattle marketing, with trading from one market to another, continued to complicate inspection work and add significantly to the cost of service.

It is with deep regret that the death in December of George Russell, a relatively new but highly respected inspector at Edmonton, was reported.

A total of 246 butcher and hide dealers were licensed. There were 3 prosecutions for failure to submit slaughter and hide records.

IMPROVEMENT DISTRICT STRAY ANIMALS ACT

There were a number of alterations to existing pound districts, but for the first time in many years there were no completely new pound districts formed. The active pounds in operation numbered approximately one hundred and forty.

THE HORNED CATTLE PURCHASES ACT

The Policy of deduction for horned cattle was continued as in previous years with brand inspectors making interpretations and collections. With the Provincial average of horned cattle marketed at about 8.5%, averages at markets in various areas, for example Grande Prairie 22.7%, Vermilion 12.2%, Stettler 5.7%, and the community auction sales in ranch areas at about 3.5%, would indicate a wide variation in dehorning practice

from one area to another, with the most dehorning done in the ranch and semi-ranch areas.

The following table shows the percentage of cattle with horns marketed at the Public Stockyards:

	1949	1958	1959	1960	1961
Edmonton	19.9	12.9	11.8	11.8	11.0
Calgary	15.6	6.6	6.9	7.0	6.5
Lethbridge .....	.....	8.4	8.2	7.5	5.8

PURE BRED SIRE AREAS

Upon petition by the Council of the M.D. of Vermilion River No. 71 the Pure Bred Sire Area formerly operating in that Municipality was rescinded by Order-in-Council 1387/61, dated September 12th. This leaves the M.D. of Athabasca as the only Pure Bred Sire Area in operation.

General

Branch personnel attended numerous extension meetings in addition to those normally falling within the administration of policies. Following is a table setting out the numbers of meetings and official duties attended or conducted by Branch personnel during the course of official duties:

Farm Visits	Meetings and Short Courses	Livestock Judging Assignments	Culling and/or Purchasing at Sales	Stockyard Visits	Butcher and Hide Dealer Visits	Sales Brand Inspected
1332	163	65	58	187	560	30

Mr. W. C. Gordon represented the Western Provinces at the Royal Winter Fair Committee meetings in April. The Livestock Commissioner represented the Department at the National R.O.P. Beef and Swine Meetings at Ottawa in October and continued to act as chairman of Alberta R.O.P. Beef and Swine Committees, the Alberta Livestock Board and the Advisory Committee on the Kinsella beef breeding project. He also attended the Royal Winter Fair as Departmental officer in charge of the Alberta Livestock Exhibit. Mr. J. J. Kallal acted as immediate supervisor of the Alberta livestock train and exhibit at the Royal Winter Fair.

ACKNOWLEDGMENTS

The continued co-operation of the various breed associations, sale and exhibition associations, and commercial organizations dealing in the livestock field, together with the support of the R.C.M. Police in matters of investigation and enforcement, of other Departments of the Government, and the Federal Production and Marketing Services, was greatly appreciated and is hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner
L. H. SILCOX, Supervisor, Dairy Factory Inspection
R. P. DIXON, Supervisor, Dairy Cattle Improvement
V. W. KADIS, Ph. D., Director, Dairy Laboratory
L. H. ARNOLD, Supervisor, Frozen Food Locker Plants
W. A. McGRATH, Charge of Dairy Statistics

GENERAL REVIEW

Milk production reached a new all time high of 1,721,496,000 pounds during 1961, representing an increase of almost 5% over the previous year. This record production was most significant considering the poor pasture season and threatened feed shortages. Milk cow numbers were 283,000 at June 1st which represents an increase of 6,000 head or 2% from a year earlier. A milestone was reached in the average production per cow when more than 6,000 pounds of milk were produced for every cow kept for milk purposes. This was highly significant when compared with 1925 at which time the average production was less than 3,000 pounds of milk.

Prices for most dairy products remained fairly constant at the support level guaranteed under the Stabilization Act. The farm value of milk production exceeded 51.8% million dollars which was more than 2.6 million dollars above the previous high value established in 1960. The total value of factory products plus the value of that portion of milk used on farms amounted to 68.8 million dollars. It was estimated that dairy cattle and calves going to slaughter during the year amounted to over 25 million dollars, thus establishing an industry value exceeding 93 million dollars.

Manufactured dairy products utilized most of the extra milk production. The output of creamery butter amounted to almost 41 million pounds for a new all time record. The previous record of 38.6 million pounds was established in 1943 under wartime encouragement. The quantity of ice cream manufactured was almost 3.9 million gallons, an increase of 8% over the previous year. The production of skim milk powder increased from 3.1 to 4.0 million pounds (20%) during the year. The low price, which at times was quoted at 5½ cents per pound, caused some manufacturers to discontinue drying skim milk by the roller process late in the year. The output of cheddar cheese was only slightly above that of the previous year. Fluid milk sales showed a slight increase of 1 to 2%, but did not keep pace with the population increase.

Bulk tank operations were extended in the Calgary and Red Deer fluid milk sheds. The total number of farm bulk tanks in operation at the year end was 737 with 44 tank trucks hauling this milk to processing plants.

The high quality of Alberta's dairy products was well maintained as measured by the federal grading reports on butter and cheese and the winnings in the creamery butter classes at the various Canadian exhibitions. Samples of all dairy products received at the Branch laboratory for bacteriological and chemical analyses indicated a general improvement in quality and a greater uniformity in composition. Tests to ascertain the extent of adulteration from antibiotics, pesticide residues and water dilution were introduced at the laboratory during the year. A regulation under The Dairymen's Act requiring a price differential of 20 cents per cwt. for No. 1 manufacturing milk over No. 2 was made effective May 1st.

The provincial cow testing service again showed considerable expansion with 13,040 cows from 480 herds under test. These cows averaged 10,548 pounds of milk and 372 pounds of butterfat for a new all time record.

The number of operating frozen food locker plants decreased during the year. A decline was also noted in the number of lockers rented and the quantity of food processed for storage in lockers. There was some increase in the volume of food products processed for home freezers, however, the overall processing in these plants showed a slight decrease from the 18.5 million pounds recorded in 1960.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION, 1961

The quantity, price, value and utilization of milk production during 1961 is reported in the following table. To indicate changes from the previous year, the 1960 figures have been included.

	Year	Pounds	Milk Equivalent Pounds	Percent Total Milk	Price	Value
Butterfat for Creamery						
Butter* _____	1961	33,178,000	958,564,000	55.7	.656 per lb.	\$21,765,000
	1960	30,334,000	876,280,000	53.5	.658 per lb.	19,960,000
Farm Dairy Butter _____	1961	1,866,000	43,664,000	2.5	.60 per lb.	1,120,000
	1960	2,250,000	52,650,000	3.2	.60 per lb.	1,350,000
Milk and Butterfat for Ice						
Cream (milk basis) _____	1961		68,544,000	4.0	2.84 per 100 lbs.	1,945,000
	1960		63,308,000	3.9	2.83 per 100 lbs.	1,793,000
Milk for Cheese-making and						
Concentrating _____	1961		71,167,000	4.1	2.68 per 100 lbs.	1,905,000
	1960		77,559,000	4.7	2.71 per 100 lbs.	2,102,000
Milk Fluid Sales _____	1961		311,627,000	18.1	4.62 per 100 lbs.	14,382,000
	1960		307,604,000	18.8	4.60 per 100 lbs.	14,157,000
Cream Fluid Sales (milk basis) ...	1961		57,680,000	3.4	2.81 per 100 lbs.	1,623,000
	1960		57,797,000	3.5	2.81 per 100 lbs.	1,624,000
Milk Farm Home Consumed _____	1961		145,000,000	8.4	2.66 per 100 lbs.	3,857,000
	1960		146,400,000	8.9	2.62 per 100 lbs.	3,836,000
Fed Farm Animals _____	1961		65,250,000	3.8	2.66 per 100 lbs.	1,736,000
	1960		57,110,000	3.5	2.62 per 100 lbs.	1,496,000
Kept on Farms Skimmilk from Creamery Butter and Skimmilk and Buttermilk from Dairy						
Butter _____	1961	872,608,000			.40 per 100 lbs.	3,491,000
	1960	811,719,000			.35 per 100 lbs.	2,841,000
Total _____	1961		1,721,496,000	100.0		51,824,000
	1960		1,638,708,000	100.0		49,159,000

* Includes butterfat used in the manufacture of butter oil.

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during 1961 and 1960.

	Year	Quantity	Price	Value
Creamery Butter, lbs.	1961	40,917,000	■ .6250 per lb.	\$ 25,573,000
	1960	37,338,000	.6231 per lb.	23,265,000
Cheddar Cheese, lbs. (including net increase in processing)	1961	1,780,000	.3567 per lb.	635,000
	1960	1,760,000	.3955 per lb.	671,000
Ice Cream, Gallons*	1961	3,897,000	1.49 per gal.	5,807,000
	1960	3,623,000	1.63 per gal.	5,905,000
Fluid Milk Sales, lbs. (including processing charges)	1961	311,627,000	6.12 per 100 lbs.	19,056,000
	1960	307,604,000	6.10 per 100 lbs.	18,771,000
Cream as Milk, lbs. Fluid sales (including processing charges)	1961	57,680,000	4.31 per 100 lbs.	2,488,000
	1960	57,797,000	4.31 per 100 lbs.	2,490,000
Skimmilk and Buttermilk Sales for Human Consumption (including processing charges)	1961	18,976,000	3.45 per 100 lbs.	655,000
	1960	17,434,000	3.41 per 100 lbs.	594,000
Skimmilk, Buttermilk, lbs.	1961	44,862,000	.40 per 100 lbs.	179,000
	1960	41,147,000	.35 per 100 lbs.	144,000
Whey, lbs.	1961	14,993,000	.20 per 100 lbs.	30,000
	1960	14,916,000	.175 per 100 lbs.	26,000
Miscellaneous Manufactured Products**	1961			4,185,000
	1960			4,615,000
Total	1961			58,608,000
	1960			56,481,000

*Mix converted to ice cream.

**Includes concentrated milk products, cottage cheese, whey butter, cheese other than cheddar, yoghurt, butter oil and butter concentrates.

BRANCH EXTENSION ACTIVITIES

Meetings

Branch personnel attended and addressed several meetings of dairy producers, dairy cattle breeders, dairy plantmen, locker plant operators and 4-H dairy calf clubs. Assistance was given to the Alberta Dairymen's Association in arranging the convention program, regional conferences for plant workers and dairy field days. Senior Branch officials continued to devote considerable time to meetings of boards, committees and individuals in work related to dairying and the frozen food locker industry. The program for dairy field days included for the first time, a demonstration by Branch personnel on milking machine operation with instruments to measure vacuum and rate of pulsation. This item attracted considerable attention.

Publications

Press and radio news items pertaining to work of the Branch were prepared for release. Monthly newsletters and special circulars were prepared and distributed to the industries being served. Illustrated leaflets and bulletins on dairy production items were prepared and distributed through dairy manufacturing plants and the D.A. service.

Dairy Short Course

Assistance was given to the Department of Dairy Science, University of Alberta, and Canadian Vocational Training in con-

ducting a four-week dairy short course during November. This was the first course of a new series designed to train dairy plant workers and dairy fieldmen. It was organized at the request of the dairy industry. This first course covered testing, grading, buttermaking and cheesemaking. Twenty-two students enrolled and all were successful in obtaining a certificate which will be provided by the Provincial Departments of Education and Agriculture.

Short Courses for Tank Milk Graders

Instruction courses of three days duration were held at Edmonton during January and at Calgary during March. These courses were designed to qualify milk tank operators for a license to grade and classify milk in accordance with prescribed standards. There were 17 in attendance at Edmonton and 32 at Calgary. Several attending had already received a tank grader's license, but looked upon this instruction as a refresher course.

Check Weighing of Butter

Official check weighers working under the direction of Branch personnel check weighed a total of 13,989 boxes, representing 6,750,592 pounds of creamery butter. In the majority of cases these weight certificates were required by the Agricultural Stabilization Board who continued the policy of purchasing and storing creamery butter under plans A and B continued from former years.

Dairy Princess Competition

Assistance was given by Branch personnel in organizing and conducting a Provincial Dairy Princess Competition. This competition was held in conjunction with the Edmonton Exhibition with nine girls from various parts of the province competing. The winner, Miss Mary Baier of Wainwright, will reign as Alberta Princess for the year and will be eligible to compete in the 1962 competition, the winner of which will go forward to the Canadian National Exhibition, Toronto, and compete in the national contest. Miss Betty Lou Handsaeme of Lethbridge, winner of the 1960 Alberta contest, took part in the national competition in Toronto during August and made a very creditable showing for Alberta.

Grassland Improvement Competition

This competition organized in the Edmonton district during 1960 was continued. Approximately 50 dairy farmers in four municipalities adjacent to Edmonton took part in the program. Considerable interest has been shown by groups in other parts of the province and it is anticipated that additional competitions will be conducted in 1962. Branch personnel were active in organizing and conducting this competition which has done much to acquaint dairy farmers with the value of a properly managed grassland program.

DAIRY PLANT INSPECTION AND INSTRUCTION SERVICE

Dairy Plants

During the year there were 120 licensed dairy plants in operation. Universal Dairy Products, Calgary, opened for the manufacture of foreign type cheeses, but closed later in the year. The plant at Neapolis was reopened also for the production of foreign type cheeses. Silani Sweet Cheese Co. of Airdrie which commenced operations in 1960, was closed on May 1, 1961.

Northern Alberta Dairy Pool moved their Vegreville operation into an entirely new building in March.

Carnation Company Limited has almost completed a new concentrated milk plant at Wetaskiwin. This plant will be opened in the spring of 1962.

A. V. Bamber is constructing an ice cream mix plant at Winterburn for use in his own retail outlet.

Inspection and Instruction

Reallocation of some field personnel became effective July 1st. L. C. Montgomery was transferred from Ponoka to Calgary, replacing D. J. Prince who moved to Edmonton. J. D. Rasmussen was transferred from Edmonton to Camrose. L. M. McKnight was appointed full time inspector and instructor on June 1st with headquarters at Edmonton. John Mader, cheese factory instructor since 1947, retired on superannuation on June 30th.

Present headquarters for inspectors' districts are as follows: Edmonton (4 inspectors, city and rural); Calgary (2 inspectors, city and rural); Fairview, Vermilion, Camrose, Red Deer and Lethbridge.

Inspections at all dairy plants made by the field staff totalled 1,470 for the year. Check grading was done on 90,287 cream shipments and official tests for butterfat content of cream and milk were 27,620. Adjustments to correct errors in both grading and testing amounted to 1.9% of the total.

Bulk Milk Handling

Up to the end of this year, 737 farm bulk tanks were in use, mainly on the premises of fluid milk producers located in the larger milk sheds of Edmonton, Calgary and Lethbridge. Dairy inspectors were present at, and reported on satisfactory calibration or recalibration of 199 installations made during the year. Check weighings were also made on 325 milk transportation tank loads of milk.

Quality Control

The overall milk quality on main markets was improved. Principal factors in this improvement could be attributed to (1) a further increase in the use of farm bulk tanks in the larger milk sheds; (2) introduction of regulations requiring purchase of milk for manufacturing purposes by a clearly defined grading system;

(3) continued checking with quality tests by inspectors accompanied by regular submission of samples for laboratory analyses.

Cream quality improved as compared with 1960. This improvement in quality accompanied an increase in production of approximately 8.5%.

Licensing and Bonding

To obtain operating license for the year, each plant was required to meet satisfactory plant standards and supply a prescribed bond.

Milk and cream grading and testing licenses were renewed in each instance where license holders performed their work with reasonable accuracy. New candidates for licensing were required to pass written and practical examinations under direction of local Dairy Branch inspectors.

Licenses issued in 1961 were:

Form "A" (Milk and Cream Testers)	268
Form "B(C)" (Cream Graders)	213
Form "B(M)" (Milk Graders)	161
(Tank Milk Graders)	82
Form "C" (Dairy Manufacturing Plants)	120

Competitions

Throughout the year, dairy product exhibits were assembled at Edmonton for packing and shipping by the Dairy Branch to leading Canadian exhibitions and to the Scottish Dairy Show, Glasgow. In all, there were 181 samples of butter and cheese forwarded to Toronto (Royal and Canadian National Exhibitions), Brandon, London (Western Ontario Dairymen's Association), and Glasgow. Transport costs to the Royal Winter Fair and the ocean freight to Glasgow were paid by the Alberta Department of Agriculture.

Alberta creameries again were well to the fore in prize winnings at these exhibitions. Top winners of special prizes at the Canadian shows were Northern Alberta Dairy Pool plants at Peace River and Holden, Central Alberta Dairy Pool at Eckville and Jasper Dairy, Edmonton.

The annual competitions arranged by the Dairy Branch in co-operation with the Alberta Dairymen's Association and the Canada Department of Agriculture, covered the whole field of endeavour in the production of top quality products from raw to finished. Basis for these competitions varied from results of laboratory analyses to the grades recorded on butter and cheese by federal graders.

Judging panels consisting of qualified plantmen and Dairy Branch personnel met quarterly to score current samples of cottage cheese and ice cream. Standard score cards were used to determine annual winners in each product.

Preliminary scores in the annual Dairy Plant Merit Competition were made by district inspectors and the final judgments

on select plants in each district were conducted by senior officials from the Dairy Branch, Edmonton. A new departure in this competition allows for awarding a merit certificate to each plant scoring over 170 points out of a possible 200.

DAIRY CATTLE IMPROVEMENT SERVICE

Division Activities

1. The principal activity of this division was the Cow Testing Service. Supervision, correspondence and record certification were carried out by the supervisor.

2. Assistance was given to artificial insemination units throughout the year in bull selection, conception rate reports and attendance at annual meetings.

3. General extension activities were field days, Grassland Improvement Competition, Dairy Princess Competition, judging at fairs and 4-H shows, record analysis meetings with herd owners on Provincial Cow Testing Service.

4. Purchase of 29 dairy bulls under the Cattle Improvement Policy.

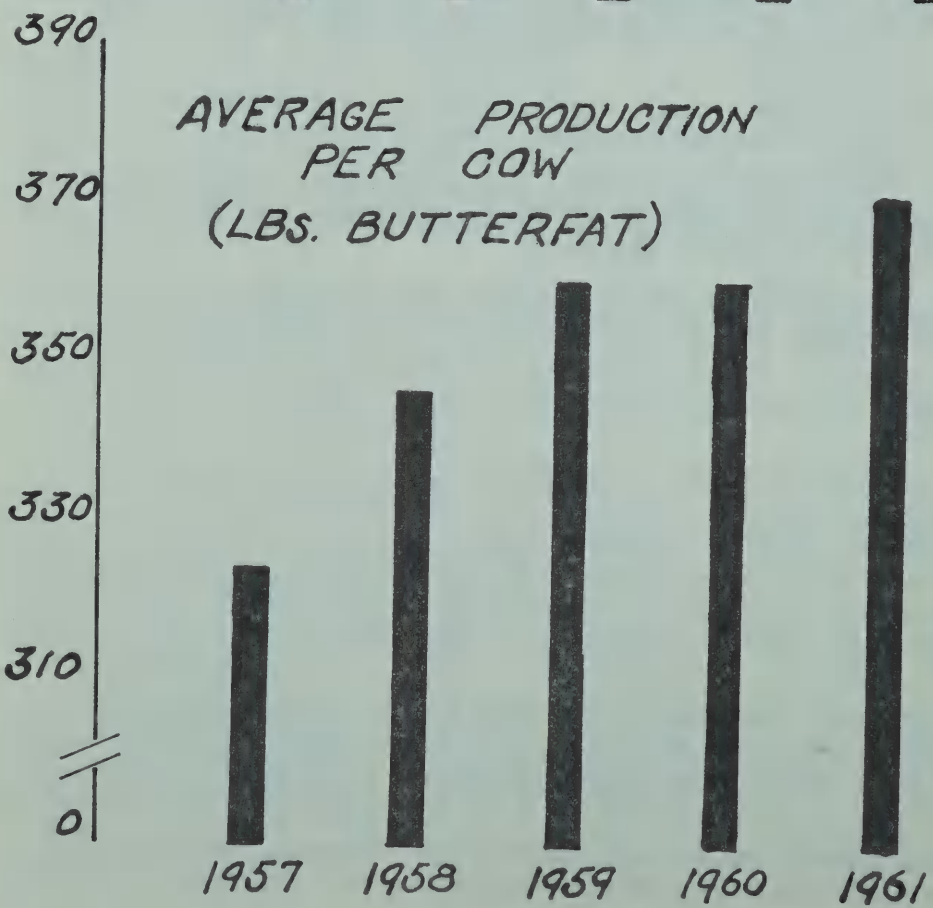
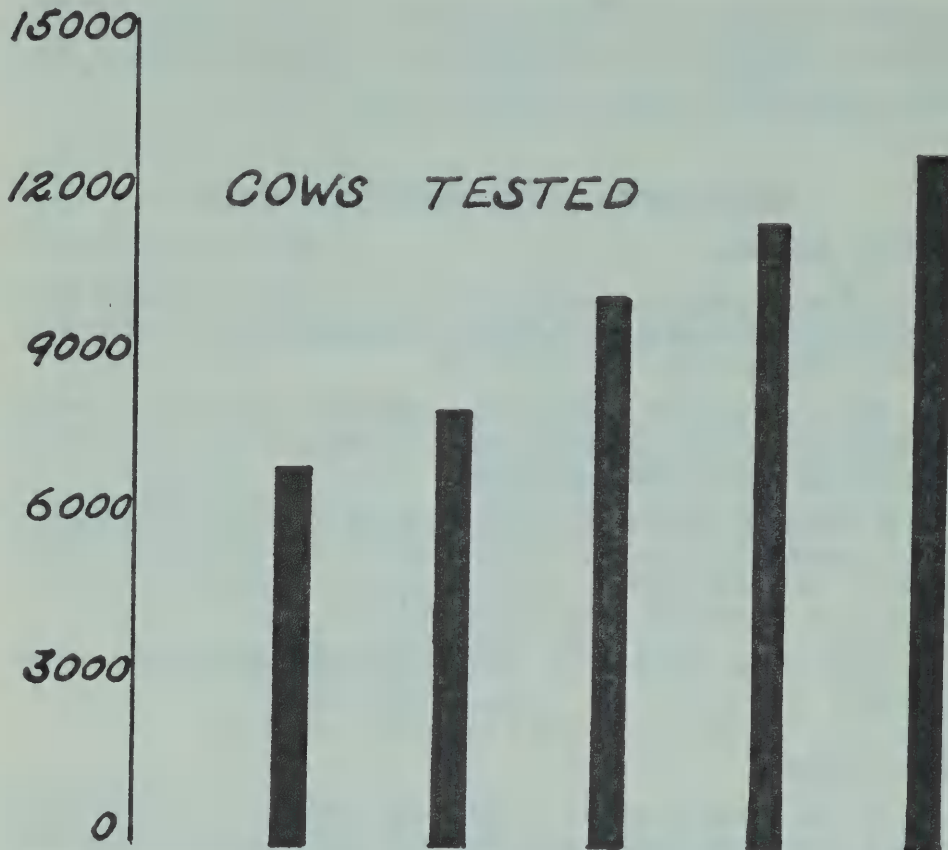
Cow Testing

An all time record of 13,040 cows tested with an all time high average production per cow of 10,548 pounds of milk and 372 pounds of butterfat highlighted the Cow Testing Service for 1961.

The 480 herds under test represented a net increase of 1,346 cows and 25 herds over 1960.

Seventy-four new herds and 1,530 cows were placed under test, while 833 cows in 49 herds that were under test in 1960 discontinued during the year.

The following graphs show the steady increase in cows tested and average butterfat production during the past five years.



(a) Mail Order

This was the basic testing program offered to herd owners throughout the province. Milk samples lifted by the herd owners were sent by express or parcel post to one of the testing centres and tested by Dairy Branch officials. Milk from each cow was either weighed daily (Plan I) or weighed on one day a month (Plan II) by the herd owners.

The following table shows the number of herds and cows tested under the mail order system during the past three years.

	No. of Herds			No. of Cows		
	1959	1960	1961	1959	1960	1961
Plan I	93	95	104	1,679	1,807	2,194
Plan II	231	271	278	5,163	6,185	6,715
Total	324	366	382	6,842	7,992	8,709

From the table it can be seen that 16 more herds and 917 more cows were tested under the mail order system during 1961 than in 1960.

(b) Owner-Sampler Route Plan

This program operated in the Edmonton area. It differs from the mail order system in that a full time fieldman visits each farm monthly picking up samples lifted by the herd owner and at the same time ear-tagging and identifying all heifer calves.

The following table shows the number of herds and cows tested under the owner-sampler route plan system during the past three years.

	No. of Herds			No. of Cows		
	1959	1960	1961	1959	1960	1961
Plan I	4	3	5	176	147	241
Plan II	79	86	93	3,258	3,555	3,890
Total	83	89	98	3,434	3,702	4,131

A total of 9 more herds and 429 more cows were tested under the owner-sampler route plan during 1961 than 1960.

The fieldman made 1,150 farm visits, ear-tagged 1,030 calves and maintained calf record books for 84 herd owners during 1961.

A total of 14 new herds were put under test in 1961 on the route plan.

Testing Centres

Testing centres were in operation at the locations shown in the table below. A full time laboratory technician assisted by the fieldman did the testing at Edmonton. At the other centres the resident dairy inspector did the testing assisted by part time clerical help.

The following table shows the number of tests conducted at each centre during the past three years.

Testing Centres	1959	1960	1961
Edmonton	36,986	42,607	48,263
Ponoka	11,159	11,892	12,575
Red Deer	11,921	13,537	13,935
Calgary	5,777	7,473	9,658
Lethbridge	4,635	5,437	6,380
Fairview	2,098	2,196	2,349
Total	72,576	83,142	93,160

A total of 10,018 more tests were conducted in 1961 than in 1960.

The following table indicates the extent to which the two plans of testing were utilized by herd owners and shows the average production under each plan, together with the provincial average for all cows on test. Comparable figures for 1960 are shown in brackets.

SUMMARY

	Plan I*	Plan II**	Total
No. of herds under test	109 (98)	371 (357)	480 (455)
No. of cows under test	2,435 (1,954)	10,605 (9,740)	13,040 (11,694)
Average number of cows per herd	22.3 (19.9)	28.6 (27.3)	27.8 (25.7)
Number of cow years (T)	1,762 (1,471)	7,861 (7,037)	9,622 (8,508)
Average number of cow years per herd	16.2 (15.0)	21.2 (19.7)	20.0 (18.6)
Average production of milk (pounds)	10,364 (10,207)	10,589 (10,349)	10,548 (10,324)
Average production of butterfat (pounds) ..	374.9 (360.6)	370.9 (360.9)	371.6 (360.9)
Average Test (%)	(.....)	(.....)	3.52 (3.50)

*Plan I—Daily weighing and monthly tests.

**Plan II—Computed records from one day's weighing and monthly tests. (T) Herd averages on the basis of cow years. The total number of cows on test during the year was used in determining the herd average, except where new cows were placed on test, or a cow was sold or died; in these cases only that part of the year in which she produced was used.

The average production of all cows on test showed a significant increase of 224 pounds of milk and 10.7 pounds of butterfat during the year 1961 compared to 1960.

Reports and Competitions

1. Graded certificates of production were issued for all cows completing the necessary production and recording requirements.

2. Annual reports showing both total and average milk and butterfat production were sent to all herd owners as well as to district agriculturists' offices.

3. Honor Roll listing of all herds of 5 cows or more producing an average of over 400 pounds of butterfat was compiled. A total of 105 herds qualified in 1961 compared to 82 in 1960.

4. Higher production and herd improvement was encouraged through competitions.

LABORATORY SERVICE

General

With over 33,000 tests performed, which represents an increase of 11% over 1960, the dairy laboratory experienced a very busy year. The service was extended to include the testing of milk and other dairy products for the presence of

pesticide residues and the detection of water adulteration in milk. The testing for pesticide residues, being the first on a provincial basis, was made possible by assistance and co-operation from the Health and Welfare Department, Ottawa, and the Alberta Department of Public Health. The number of samples submitted for mastitis examination showed an appreciable increase indicating additional interest in the control of this disease. A survey of milk samples from fluid milk farms was again made for the presence of Q-fever and Brucellosis. More emphasis was placed on the detection of antibiotics in milk.

Dr. J. B. Linneboe, director of the laboratory since 1927, retired on superannuation late in the year. Due largely to Dr. Linneboe's untiring efforts the laboratory service was extended during his term of office, from a mould and yeast service on creamery butter to a complete analytical service for all dairy products including the testing required by the Department of Public Health. Dr. V. W. Kadis was appointed to the position of director during December and L. M. McKnight was transferred from the inspection staff at the year end to the position vacated by Dr. Kadis.

The following table demonstrates the number and type of tests performed, as well as corresponding figures from the previous year.

	1961	1960
Butter samples for mould and yeast	3,992	3,815
Bacterial creamery survey samples	41	75
Butter samples for pH	1,936	1,820
Milk control service	11,097	11,011
Milk samples for Brucellosis	255	139
Milk samples for Q-fever	1,488	1,992
Mastitis control service	10,460	8,101
Milk samples for antibiotics	1,264	969
Cheese samples	114	127
Ice cream samples	627	583
Egg products	361	512
Pesticides in dairy products	90	
Water adulteration of milk	985	
Miscellaneous	571	774
Total	33,281	29,918

Butter

The mould and yeast count of butter was continued as in previous years. In addition to providing much valuable information to plant management and dairy inspectors, it has been an important factor in maintaining a high standard of sanitation in manufacturing practices which have resulted in better keeping quality of the product. It is gratifying to note an improvement in the counts that have already been regarded as very satisfactory.

The following table illustrates the number of samples tested and the percentage in each classification for 1961 in comparison with the results for 1960.

Year	No. of Samples	Classification			
		Excellent	Good	Fair	Poor
1961	3,992	62.9%	25.8%	6.7%	4.6%
1960	3,815	56.7%	27.2%	9.4%	6.7%

Another factor in the keeping quality and uniformity of butter is the control of pH value. The desirable pH for butter is within a range of 6.95 to 7.30.

The laboratory results of pH values for the years 1960 and 1961 are given below:

Year	No. of Samples	pH	pH	pH
		6.95 to 7.30	Over 7.30	Under 6.95
1961	1,936	48.4%	35.7%	15.9%
1960	1,820	46.5%	33.6%	19.9%

Milk

The largest number of samples submitted were from the fluid milk trade with an increasing number from country milk plants. These plants were processing a greater variety of products which include cereal cream, whipping cream, chocolate dairy drink, buttermilk, etc. The tests included total bacteria count, coliforms, butterfat content, phosphatase and in many cases, where difficulties were experienced, the samples were examined for thermophilic, thermoduric, psychrophillic counts in addition to solids, adulterants, homogenizing index, etc.

The increasing concern about the quality of raw milk resulted in a larger number of raw milk examinations.

Mastitis

Samples of milk for mastitis control program were submitted through veterinarians, public health or dairy inspectors, dairy plant fieldman, or by the farmers themselves. In addition to the diagnostic tests, an antibiotic sensitivity test against the infecting organisms was performed.

The preparation of bacterins for staphylococcal infections also was available on request.

The following data show the total samples tested with the percentage of negative and positive results during the past two years.

Year	No. of Samples Tested	Positive Samples	Negative Samples
1961	10,460	39.3%	60.7%
1960	8,101	32.0%	68.0%

As in previous years, the most common infections were due to streptococci, with *S. agalactiae* as the predominant type. However, staphylococcal infections were found to be increasing. It was evident that mastitis is still a problem in many dairy herds.

Antibiotics

During recent years, the presence of antibiotics in milk has created a public health problem, and a financial loss to dairy plants manufacturing cheese and cultured products.

Composite samples from most fluid milk producers were checked at least once during the past year for the presence of antibiotics. In addition, a few herds supplying milk to cheese

factories were tested. It is gratifying to know that only 3, or .24% of 1,264 milk samples tested showed positive results.

Cheese

Cheese samples were received primarily from the provincial dairy inspectors. The samples were analysed for moisture, butterfat content, pH value, phosphatase, and in some cases a bacteriological examination was performed.

Ice Cream

A slight increase in ice cream samples submitted for bacteriological and chemical analyses was due to further emphasis placed on samples collected at the soft ice cream outlets. Samples were received, mainly from public health officials during the summer months.

Egg Products

The examination of egg products was provided for the Poultry Marketing Division of the Federal Department of Agriculture and the local poultry industry. The analyses included bacteria count, moisture content and in some cases the determination of beta carotene content in egg yolk. These tests were provided on a cost basis.

Water Adulteration of Milk

The acquisition of a Fiske cryoscope, during the year, made possible the rapid and accurate determination of the freezing point of milk, and subsequently, the calculation of the water which may have gained entrance to the product. Results from the preliminary survey indicated water adulteration in various degrees in a number of samples. However, following a circular letter to milk shippers and milk plant operators which explained the possible source and indicated the penalties that could be imposed, the number of adulterated samples decreased sharply. This decrease must also be attributed to the assistance given by the inspection staff of the Dairy Branch and health units to producers and plant personnel. It was found that extra care must be exercised in draining pipe lines where circulating cleaning is used on pipe line milkers and processing equipment.

The tests indicated that 19.3% of 985 samples examined were adulterated with water in various degrees. It is the intention of the laboratory to continue periodical checks of the milk supply for water adulteration.

Miscellaneous

This group included a great variety of samples and tests performed. The most common were detergent solutions, sanitizers, and milk powder for chemical analyses, milk and cream samples for preservative investigations, butter and margarine for colour readings, brine solutions and butter for salt determinations, milk for leucocyte count, lactic cultures for bacteriophage investigations, extraneous matter for identification and various solutions for chlorine determinations.

FROZEN FOOD LOCKER PLANTS

Officials of the Dairy Branch continued to administer the Frozen Food Locker Act and provided a service to this industry through inspection and instruction to all frozen food locker plants. During the year there was a total of 1,030 inspections compared to 1,043 for 1960.

The supervisor visited all plants at least once during the year, assisted operators in planning alterations to plants and slaughter houses, to make them more efficient in meeting the demands of new business trends. These trends were brought about by dwindling locker rentals and an increase in services offered for home freezer patrons.

Six plants discontinued operations during the year and the plant at Innisfail reopened after being closed for approximately one year. The plant at Coronation was completely destroyed by fire and was not rebuilt. Home Provisioners of Calgary purchased the Campbell & Griffin Cold Storage and Locker business from Union Milk Company. After considerable alterations to this plant, the two businesses were combined thus eliminating one plant at Calgary. The other plants that closed during the year were located at Barrhead, Granum, Hardisty and Queenstown. There were 131 plants operating at the end of the year compared to 136 in 1960. The number of plants licensed for storing animal foods remained at 3.

The scoring of all plants for the Merit Award Competition and for proficiency certificates was again undertaken by inspectors, while the top plants in each district were rescored by officials from head office. Thirty-three proficiency certificates were issued to operators who met the high standards of plant operation, sanitation and services offered, as set up by a committee representing the Dairy Branch and the Alberta Locker Association. Winners of the 1960 Merit Award Competitions were announced and presented with trophies and certificates at the annual convention of the Alberta Quick Freeze Locker Association held at the Masonic Temple, Edmonton, during February, 1961. The shield for Section A (plants with over 300 lockers) was won by Redi-Food 'N' Freezers of Edmonton; Taber Frozen Foods of Taber; and Central Alberta Dairy Pool, Rimbey, placed second and third respectively. Peace River Meat Company and Locker Plant of Sexsmith won Section B (less than 300 lockers) while Hythe Locker Plant and Meat Market, Hythe and Denoon's Meat Market, Nanton, placed second and third respectively in this section.

The following statistics are tabulated from monthly storage reports received from the operators and covers the 12-month period ending November 30, 1961. Statistics for the previous 12 months are included for comparison.

Locker Plants Operations

	1961	1960
No. of animal food plants	3	3
No. of plants in operation December 1st	131	136
No. of plants reporting	137	141
No. of lockers installed	34,125	37,646
Average number of lockers installed	260	269
No. of lockers rented December 1st	23,881	26,316
Percentage of lockers rented December 1st	69.9	69.9
Average lbs. of food stored per locker with complete service	321.1	346.7
Average lbs. of food stored per locker with incomplete service	167.0	202.2
Average poundage per locker—all plants	304.4	327.2
Average lbs. per locker on the basis of lockers rented for 12 months	292.9	330.0
Inspections during the year	1,030	1,043

Locker rentals again declined during the year under review. As in past years, the decline in rentals was due mainly to the increased sale of home freezers. The volume of processing for lockers was considerably lower in 1961, however, there was a slight increase in the volume processed for home freezers. The total volume of processing was approximately 1¼ million pounds lower than last year. This drop in volume was due mainly to the rising cost of meat products during the latter part of the year and also the additional retail meat outlets offering processing services to the home freezer patron. (Statistics from these operations are not submitted to this Branch.)

To illustrate the trend of the locker plant industry, the following tables outline the number of plants operating, lockers rented and food processed for storage in lockers and home freezers. Statistics for home freezers were not compiled previous to 1953.

Locker Plant Operations

Year	No. of Plants Operating	No. of Lockers Installed	No. of Lockers Rented	Per Cent of Lockers Rented	Average lbs. Per Rented Locker
1945	61	16,770	13,572	80.9	326.0
1950	141	48,647	43,802	90.0	305.2
1955	153	51,488	43,608	84.7	307.9
1960	136	37,646	26,316	69.9	329.6
1961	131	34,125	23,881	69.9	292.9

Amount and Type of Food Products Stored in Lockers

Year	Pounds Stored Lockers	Meat %	Fish %	Poultry %	Game Birds %	Big Game %	Cured Meats %	Lard %	Fruits %	Veg. %	Misc. %
1945	3,902,294	79.1	.8	6.4	.7	1.5	7.3	.5	1.9	1.7	.1
1950	12,895,363	75.3	.9	6.3	.6	.9	11.0	1.2	1.5	1.5	.8
1955	13,760,124	79.1	.4	6.8	.5	1.7	7.6	1.0	.6	1.8	.5
1960	8,675,136	77.0	.3	4.7	.2	4.9	9.4	1.1	.5	1.5	.4
1961	7,100,549	76.0	.3	5.1	.3	6.1	8.6	1.1	.5	1.6	.4

Processed for Home Freezers

Year	Pounds	Meat	Fish	Poultry	Game Birds	Big Game	Cured Meats	Lard	Fruits	Veg.	Misc.
1953	1,534,919	76.5	1.2	1.3	.1	.1	4.0	.3	4.5	5.4	6.6
1955	2,021,656	76.0	1.0	1.6	.1	.6	6.3	.5	5.1	4.7	4.1
1960	9,834,111	78.5	.5	1.1	.1	2.0	9.8	1.3	2.5	2.2	2.0
1961	10,158,455	79.5	.4	1.2	.5	2.5	8.6	1.2	1.5	2.3	2.3

Total Volume Processed for Lockers and Home Freezers

	Pounds		Pounds
1953	17,317,103	1960	18,509,247
1955	15,781,780	1961	17,259,004

Milk Control Report

Submitted by the

PUBLIC UTILITIES BOARD

J. B. MOORE, Administrator of Milk Control

Fluid milk consumption in 1961 registered increased consumption in the controlled areas of Camrose, Edmonton, Medicine Hat and Red Deer. Consumption declined somewhat in the other areas.

Specifically increases or decreases were as follows: Calgary—.2%, Camrose+.2%, Crow's Nest Pass—2.6%, Edmonton +1.68%, Lethbridge—.12%, Medicine Hat+.64%, Ponoka—7.69%, Red Deer+6.74%.

Generally on a per capita basis consumption continued to indicate a downward trend.

Production increased in all but one of the controlled areas. The number of distributors licensed were 22, a decrease of one.

Milk Control Regulations were amended by Alberta Regulation 105/61. Eight Orders were issued during 1961 as follows: Orders Nos. 25262, 25373, 25386, 25387, 25441, 25773, 25810 and 25823.

The Board continued its active and financial support of both the Dairy Cost Survey and Milk Foundation. A Cryoscope was purchased and presented to the Dairy Laboratory in Edmonton.

Several infractions of Board Orders and Regulations were investigated—there were no resulting prosecutions. Additional payment to producers resulted in some cases through corrections directed by the Board.

The Board was represented at the Annual Convention of the International Milk Control Agencies held in Quebec City. The Board also represented and took part in several other meetings held during the year.

STATISTICAL DATA RELATING TO MILK CONTROL

The Tables which follow relate to milk and cream supplied and sold for fluid consumption in the areas of the Province controlled by the Public Utilities Board during the year 1961.

TABLE I
Daily Per Capita Consumption Of Fluid Milk, In Pints, By Months For 1961

(To Include Cream Consumption Converted to Milk Equivalent)

Area	Pints (Per Diem)											
	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary .....	.696	.745	.741	.733	.736	.718	.690	.686	.747	.730	.746	.730
Camrose .....	.798	.839	.820	.799	.773	.756	.656	.727	.797	.797	.789	.778
Crows Nest												
Pass .....	.411	.426	.430	.438	.455	.468	.442	.510	.505	.452	.449	.516
Edmonton .....	.751	.783	.754	.779	.758	.782	.676	.716	.792	.791	.768	.783
Lethbridge .....	.656	.703	.689	.692	.673	.684	.631	.644	.698	.690	.674	.672
Medicine Hat .....	.464	.530	.531	.533	.538	.535	.516	.523	.551	.538	.549	.590
Ponoka .....	.701	.737	.730	.728	.715	.692	.607	.651	.737	.707	.765	.726
Red Deer .....	.676	.700	.688	.695	.691	.704	.680	.691	.723	.743	.717	.757

* Not to include Chocolate, Buttermilk and Skimmilk

TABLE II
Consumption Of Fluid Milk Monthly, 1961—In Quarts

Area	Quarts											
	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary	2,040,518	1,944,578	2,142,556	2,034,012	2,118,402	2,021,198	1,975,978	1,988,833	2,111,963	2,121,071	2,107,378	2,116,000
Camrose	68,809	64,718	69,752	65,946	66,614	62,999	55,462	61,769	66,148	68,445	65,831	66,135
Crows Nest												
Pass	41,473	39,806	44,361	43,260	46,476	45,858	45,717	53,120	50,809	48,125	45,964	51,328
Edmonton	2,777,734	2,605,024	2,762,704	2,748,488	2,775,239	2,772,159	2,445,457	2,613,946	2,808,679	2,888,741	2,715,175	2,804,198
Lethbridge	282,747	273,796	295,746	285,290	285,707	285,883	270,700	279,393	287,292	294,556	276,880	290,751
Medicine Hat	149,614	143,072	159,136	154,597	163,209	157,386	155,948	159,408	160,529	162,158	159,974	157,105
Ponoka	33,961	32,240	35,542	34,150	34,786	32,759	29,099	31,989	34,738	34,962	37,103	36,032
Red Deer	169,682	157,412	170,940	167,774	170,623	167,538	163,882	169,211	177,584	182,175	171,073	184,440

TABLE III
Consumption Of 2% Partly Skimmed Milk Monthly, 1961—In Quarts

Area	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary	172,562	166,903	184,691	178,763	197,688	188,141	184,110	191,509	214,424	223,983	228,824	230,000
Camrose	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crows Nest	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pass	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edmonton	221,553	211,440	226,629	227,172	229,220	226,883	181,664	200,032	235,341	243,276	213,569	230,728
Lethbridge	33,145	33,548	37,795	37,675	38,349	40,147	35,876	36,369	37,972	39,032	35,929	37,644
Medicine Hat	9,218	9,322	13,076	13,616	14,570	14,101	14,354	14,945	14,919	15,098	14,976	14,998
Ponoka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Deer	.....	.....	.....	14,852	19,237	22,178	20,320	21,121	22,705	25,140	24,379	26,200

TABLE IV
Consumption Of Skim Milk Monthly, 1961—In Quarts

Area	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary	100,537	96,906	105,967	102,939	110,125	105,195	90,439	93,141	102,273	105,470	104,921	105,000
Camrose	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crows Nest	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pass	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edmonton	115,225	110,498	118,233	118,144	120,002	121,449	94,007	102,375	115,133	119,984	115,277	116,798
Lethbridge	10,570	10,186	11,214	11,107	11,990	11,726	10,159	10,760	11,254	11,258	10,971	11,102
Medicine Hat	1,796	1,846	1,972	1,730	1,819	2,043	1,943	1,804	1,814	2,014	2,186	1,495
Ponoka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red Deer	9,528	9,464	10,123	10,365	11,263	10,953	10,009	10,172	10,762	11,139	10,961	11,500

TABLE V
Consumption Of Chocolate Dairy Drink Monthly, 1961—In Quarts

Area	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary	64,018	60,738	68,204	64,596	79,099	90,361	83,291	87,799	82,530	80,084	76,030	80,000
Camrose	1,974	1,700	1,849	1,751	1,745	2,068	1,998	2,557	2,026	2,115	1,679	1,940
Crows Nest												
Pass												
Edmonton	102,003	95,953	102,590	101,215	112,791	129,761	115,457	122,393	121,303	119,678	110,813	117,264
Lethbridge	8,597	8,287	8,747	8,712	10,425	12,123	11,818	12,493	10,439	10,561	9,921	9,153
Medicine Hat	7,126	6,678	7,259	7,277	8,970	9,601	9,597	9,725	8,014	7,586	7,362	7,653
Ponoka	645	807	811	240	1,169	1,396	1,256	1,163	1,408	.....	210	240
Red Deer	5,646	5,422	5,878	5,988	7,010	7,533	7,201	8,481	7,362	6,820	6,168	6,700

TABLE VI
Consumption Of Buttermilk Monthly, 1961—In Quarts

Area	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary	23,355	24,933	27,758	26,807	34,394	47,721	39,641	44,362	26,769	27,196	24,539	25,000
Camrose	710	584	771	803	833	1,236	1,121	1,155	766	766	607	621
Crows Nest												
Pass	251	326	487	435	247	774	527	550	596	440	274	202
Edmonton	35,980	39,865	44,200	45,629	63,706	89,414	67,436	68,174	41,615	40,077	36,618	39,437
Lethbridge	3,663	4,138	4,649	4,601	6,199	9,455	8,047	8,090	4,545	4,718	3,683	3,608
Medicine Hat	1,621	1,920	2,173	2,112	3,159	5,513	4,489	4,247	1,996	2,031	1,705	1,674
Ponoka	211	90	125	140	157	240	240	141	531	209	188	155
Red Deer	1,180	1,325	1,487	1,624	1,840	2,506	2,188	2,114	1,555	1,606	1,515	1,600

TABLE VII
Consumption Of Fluid Cream Monthly, 1961—In Quarts

Area	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
Calgary	149,492	145,233	159,914	155,933	159,094	144,970	152,525	145,791	155,033	155,003	154,203	158,180
Camrose	2,654	2,659	2,948	2,756	2,667	2,517	2,458	2,612	2,610	2,667	2,549	2,618
Crows Nest												
Pass	455	284	376	417	447	490	364	378	376	223	256	523
Edmonton	215,244	202,823	218,359	220,184	217,535	214,561	200,717	207,716	224,265	231,253	221,950	240,870
Lethbridge	19,003	18,182	19,998	19,860	20,050	18,549	18,587	18,271	20,760	20,452	20,221	15,352
Medicine Hat	6,256	9,607	10,598	10,271	10,288	9,571	9,952	9,793	10,480	10,597	10,758	11,202
Ponoka	2,431	2,288	2,444	2,364	2,323	1,396	2,100	2,247	2,445	2,346	2,432	2,469
Red Deer	8,830	8,458	9,259	9,274	9,429	9,411	10,140	9,944	8,757	10,837	10,091	11,065

TABLE VIII
Fluid Milk Consumption, 1957 - 1961—In Quarts

Area	1957	1958	1959	1960	1961
Calgary	21,571,417	22,549,934	23,528,082	24,771,866	24,722,487
Camrose	753,398	773,446	746,870	781,018	782,628
Crows Nest					
Pass	602,467	541,477	451,839	571,087	556,297
Edmonton	30,305,843	31,032,352	31,632,619	32,175,479	32,717,544
Lethbridge	3,248,744	3,312,685	3,333,543	3,412,623	3,408,741
Medicine Hat	1,859,384	1,834,818	1,943,425	1,870,094	1,882,136
Ponoka	349,609	365,698	409,380	441,296	407,361
Red Deer	1,618,127	1,714,424	1,870,971	1,922,574	2,052,334
TOTAL	60,308,989	62,124,834	63,916,729	65,946,037	66,529,528

TABLE IX
Fluid Cream Consumption, 1957 - 1961—In Quarts

Area	1957	1958	1959	1960	1961
Calgary	1,750,083	1,744,239	1,823,919	1,859,491	1,835,371
Camrose	23,779	23,908	24,860	29,427	31,715
Crows Nest Pass	5,431	5,060	3,547	4,149	4,589
Edmonton	2,352,775	2,398,238	2,507,060	2,577,486	2,615,477
Lethbridge	221,884	224,967	230,727	234,731	229,285
Medicine Hat	114,578	112,203	115,407	120,574	119,373
Ponoka	22,298	22,324	25,430	30,914	27,285
Red Deer	84,223	96,147	99,090	107,295	115,495
TOTAL in Quarts	4,575,051	4,627,086	4,830,040	4,964,067	4,978,590
TOTAL in B. F.					
Equivalent - Lbs.	1,544,080	1,492,224	1,556,480	1,675,372	1,680,274

TABLE X
Fluid Milk Purchases By Distributing Plants—1957 to 1961—In Pounds

Area	1957	1958	1959	1960	1961
Calgary	81,777,236	87,147,886	94,941,664	102,916,732	107,131,175
Camrose	2,576,044	2,676,388	2,486,465	2,911,309	2,978,372
Crows Nest Pass	1,258,982	1,098,425	1,154,268	1,217,513	1,373,700
Edmonton	115,453,631	127,881,837	134,265,800	141,427,090	147,697,071
Lethbridge	13,390,304	17,507,666	21,451,338	24,499,823	25,274,500
Medicine Hat	6,419,601	6,546,699	7,139,217	7,862,646	8,110,100
Ponoka	1,131,619	1,232,693	1,383,920	1,437,490	1,359,758
Red Deer	6,124,186	6,125,997	7,047,283	7,688,980	8,310,071
TOTAL (Lbs.)	228,131,603	250,017,591	269,869,955	289,961,583	302,234,747

TABLE XI

Number of Milk and Cream Producers and Distributors Operating on
December 31st, 1961 Under The Public Utilities Board License

Area	Milk		Cream		TOTAL	
	Producers	Distributors	Producers	Distributors	Producers	Distributors
Bowden	1	1			1	1
Calgary	330	5	31		361	5
Camrose	6	2			6	2
Crows Nest Pass	7	1			7	1
Edmonton	457	5	60		517	5
Lethbridge	46	2			46	2
Medicine Hat	28	2			28	2
Ponoka	5	1	2		7	1
Red Deer	20	3	8		28	3
TOTAL	900	22	101		1,001	22

TABLE XII

Prices in Effect as at December 31, 1961

Area	MILK		10% To Consumer Sub-Standard		18% Table Cream		32 - 34% Whipping		Chocolate Milk		Butter Milk		Skim Milk	
	To Producers	Per 100 Lbs. 3.5% B. F.	Per Quart	Per Pint	Per Quart	Per Pint	Per ½ Pint	Per Quart	Per Quart	Per Quart	Per Quart	Per Quart	Per Quart	Per Quart
Bowden	\$4.56		19c				27c		23c		21c		17c	
Calgary	4.89		22		43c		32		21		21			
Camrose	4.43		19				30		25		24			
Crows Nest Pass	5.25		24				40		23		20		16	
Edmonton	4.95		21		40		30		23		20		17	
Lethbridge	4.89		22				33		23		21		17	
Medicine Hat	4.84		22				33		23		21		17	
Ponoka	4.75		20				30		22		20			
Red Deer	4.95		22				32		24		22		17	

Milk to consumer per quart price refers to an imperial quart of "Standard" Milk delivered to "Retail Consumer".
December figures are estimates.

Report of the Poultry Branch

ROBT. H. McMILLAN, Poultry Commissioner

G. R. Milne, Poultry Supervisor

Inspectors:

K. Darlington	West Edmonton	J. L. Plumley	Red Deer
K. H. Rowe	East Edmonton	Wm. Hutchison	Calgary
G. O. Johnson	Camrose	G. E. Patsula	Fairview

GENERAL REVIEW

It would appear that the Deficiency Payment Program, instituted by the Canada Stabilization Board, has had some results as egg production was down and prices to producers showed a slight increase. It was noticeable in Alberta, that while our annual production in total did not exceed our per capita consumption requirements, seasonal surpluses and deficiencies did occur. Seasonal surpluses occurred in the period December to April with resultant depressed returns to producers. Our deficiency period occurring in the summer months was such that considerable quantities of eggs had to be brought in to meet requirements. It could be that some planning of replacement flocks could have done much to remedy this situation. In 1957 there were 3,613,000 layers as compared with 3,276,000 in 1961. Production per bird had risen from 167 eggs per bird to 179 in the same period. A trend was very noticeable toward white shelled eggs.

Total Eggs Produced millions of dozens

Weighted Egg Prices to Producers as determined by Registered Egg Station Receipts

Year	Alberta	Alberta
1957	49.9	26.4
1958	47.6	25.6
1959	44.7	25.2
1960 (est.)	44.0	23.2
1961 (est.)	45.0	24.4

The 1961-62 Deficiency Program had been announced and the national weighted average for Grade A Large was set at 34c, which was 1c higher than the first two years of operation, and also Grade A Medium eggs were included in the total of 4,000 dozen eggs which were allowed to each producer. Broadly speaking, the only market for our eggs was the home market. Export markets for Canadian eggs was very dim and it was doubtful if any appreciable volume would move to the United States or to Venezuela. We expected prices to producers in the first quarter of 1962 to be reduced to that of the same period of 1961.

In broiler production we noted that this segment of the industry continued to expand at an unabated rate. Settings of eggs in incubators was some 35% over that of 1960.

Up to 1961 broiler growers, because Alberta in total was a broiler deficiency area, enjoyed a few cents a pound more for their product than did growers elsewhere in Canada. Unfor-

unately, our forecast of the year before, i.e. that should production in Alberta meet our requirements, prices would be materially reduced, happened. During 1961 17c and 18c per pound broilers were in evidence. At the same time—regardless of contract or no, a situation arose in which two paying prices for broilers live weight were quoted, i.e., No. 1 and No. 2 broilers. There were two main reasons for this. First, the large accumulation of broiler stocks, and secondly, the condemnations or grade loss in processing. There would appear to be no slackening in broiler production of the larger integrated operations. However, many of the small independent or side-line operations were cutting back.

With more turkey poults hatched in 1961 it looked for a while as though very low prices would be received by turkey growers. However, Thanksgiving prices held at around 6c to 7c less than 1960, but considerably higher than anticipated. Because of low retail prices a good volume of turkey was moved and resulted in somewhat stronger price for the Christmas trade.

A turkey support price for 1961 was announced by the Canada Department of Agriculture. Dealers and growers could offer to the Stabilization Board Grade A turkeys eviscerated at the end of the year on the basis of 20c/lb. live weight, Toronto. No offerings were made.

A definite trend is noted involving broiler production and turkey production, particularly towards contracting or integration. In some instances, the processor or hatcheryman was taking on the actual physical productive function. Contracting or planned production may theoretically be beneficial in controlling volume, peak or deficient periods of production, however, this was not the experience in other areas of this country or Continent.

FLOCK APPROVAL

The pullorum testing and banding of chicken and turkey hatching egg supply flocks continued to be a major project of the Poultry Branch. To handle the bulk of this work 8 temporary inspectors were employed from September through December. Table 1 indicates the number of flocks and birds inspected monthly throughout the year.

TABLE I
Flock Approval By Month

	1960		1961	
	No. Flocks	No. Females	No. Flocks	No. Females
January	41	18,497	24	11,293
February	10	3,544	13	11,749
March	2	2,524	17	7,585
April	2	1,287	19	14,735
May	12	7,401	10	8,357
June	6	3,333	8	5,103
July	15	6,550	20	12,325
August	25	14,242	23	15,864
September	124	58,358	110	57,057
October	212	76,172	209	79,941
November	231	89,555	163	64,381
December	99	52,063	91	51,853

TABLE II

	Egg Production Matings			Broiler Production Matings		
	No. Flocks	No. Birds	Average Size	No. Flocks	No. Birds	Average Size
1957	915	342,009	373	98	46,510	474
1958	752	304,645	405	92	48,861	531
1959	665	264,949	398	181	94,698	523
1960	597	241,799	405	178	91,029	511
1961	451	190,804	423	256	149,675	585

All hatching eggs set in licensed hatcheries must be from inspected and pullorum disease free flocks.

Table III summarizes the number of flocks and birds inspected and tested for pullorum disease.

TABLE III**SUMMARY OF FLOCK APPROVAL 1960 - 1961**

(First Test on Completed Flocks)

Year	Method of Testing	No. of Flocks	No. of Birds	Ave. Size of Flock	% Reaction
1960	Whole Blood	776	318,484	410	.045
1961	Whole Blood	707	340,479	482	.029

Table IV summarizes total turkey flocks and turkeys inspected and banded.

TABLE IV**SUMMARY OF TURKEY APPROVAL 1959 - 1961**

Year	No. of Flocks	No. of Birds	Average Size of Flock
1959	32	30,469	952
1960	44	45,489	1,034
1961	35	44,511	1,272

88.6% of the turkeys were Broad Breasted Bronze, 10.6% were large Whites, and .8% were small Whites.

The number of flocks inspected decreased by 9, while the number of birds inspected remained comparable to the previous year.

LICENSING AND BONDING OF DEALERS IN POULTRY PRODUCTS

A. **Produce**—The Poultry Branch administers Regulations Respecting the Licensing and Bonding of Dealers in Poultry and Poultry Products under the Livestock and Livestock Products Act. Every person carrying on a business as a dealer must obtain a license to conduct such business. As of January 1, 1956, as protection to producers, all wholesale dealers were required to furnish a survey bond in favor of the Minister ranging from \$1,000 to \$10,000 dependent upon the volume of business conducted.

TABLE V

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Processing Stations	Reg. Poultry Eviscerating Stations	Reg. Poultry Grading Stations	Temporary Grading Stations	Poultry Packing Stations
1957	33	141	22	10	8	3	.....
1958	21	144	24	10	9	3	.....
1959	17	142	26	12	8	3	.....
1960	17	137	23	13	8	0	.....
1961	10	136	23	14	9	0	8

B. Hatchery—The Poultry Branch administers Regulations Respecting the Production and Sale of Chicks under the Alberta Livestock and Livestock Products Act. All commercial and custom hatcheries with an incubator capacity of 1,000 eggs or more are licensed. Since 1951 commercial hatcheries are required to furnish a surety bond, in favor of the Minister, for protection of hatching egg producers, ranging from \$2,000 to \$5,000 dependent upon incubator capacity.

TABLE VI
DEVELOPMENT OF HATCHERIES

Year	Breeder Hatcheries	Commercial Hatcheries	Egg Setting Capacity
1957	13	52	4,698,818
1958	10	50	4,614,423
1959	8	50	4,807,462
1960	6	47	4,684,062
1961	10	43	4,658,339

TABLE VII
CHICK DISPOSITION

Year	% Hatchability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks Remaining In Province
1957	69.05	11,167,818	630,880	365,290	244,848	10,416,496
1958	69.8	11,454,597	727,795	581,018	310,951	10,456,735
1959	70.0	11,710,464	613,173	600,475	474,379	10,971,195
1960	69.4	12,358,830	739,453	525,186	470,192	11,564,383
1961	70.0	14,544,564	692,757	621,299	621,599	13,852,107

TABLE VIII
CHICK PRODUCTION BY TYPE

For Egg Production Type			For Broiler Production Type		
1961	1960	% Change	1961	1960	% Change
7,276,258	6,986,123	+4.15	7,268,306	5,372,707	+35.5

Poult production in Alberta hatcheries in 1961 was 1,708,081 poults, an increase of 41% over 1960.

TABLE IX
POULT PRODUCTION

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatchability	Poults Imported	Poults Exported	Poults on Alberta Farms
1957	1,763,449	592,150	1,006,734	57.1	83,461	39,906	1,050,289
1958	2,011,546	924,591	1,162,178	58.8	43,515	90,564	1,115,129
1959	2,593,650	1,222,124	1,470,164	56.6	166,571	13,750	1,622,985
1960	2,184,672	500,100	1,211,030	55.4	7,360	134,211	1,084,179
1961	3,187,674	1,005,489	1,708,081	53.5	48,818	196,860	1,560,039

In 1961 for the first time in Alberta, turkey hatching eggs during incubation and day-old turkey poults were destroyed because of lack of demand. Eggs destroyed were 26,075 and poults destroyed were 17,089.

Importation of U.S. franchise breeding stock decreased. During 1961 there were 19 different franchises offered for sale as compared to 23 in 1960, 25 in 1959, and 21 in 1958. It was estimated that this stock produced 1,921,500 egg production

chicks and 7,000,000 broiler production chicks and 1,237,500 poults this year. There were 5 Canadian franchised chicks offered for sale in the province.

TABLE X
IMPORTATION FROM THE UNITED STATES
1961

	CHICKEN				TURKEY			
	From Egg		From Broiler		From Meat		From Broiler	
	Production		Production		Production		Production	
	Matings		Matings		Matings		Matings	
	Eggs	Chicks	Eggs	Chicks	Eggs	Poults	Eggs	Poults
January	—	—	32,524	2,922	125,950	—	—	—
February	—	8,975	49,676	13,286	192,883	—	—	—
March	16,560	10,508	29,088	4,722	189,640	—	2,800	—
April	4,320	22,050	29,808	14,468	178,242	—	—	—
May	16,560	4,091	36,986	16,171	170,460	12,384	—	—
June	—	3,150	88,080	16,535	2,500	—	—	—
July	—	—	95,780	15,315	—	2,950	—	—
August	—	1,000	32,328	5,020	—	—	—	—
September	—	—	7,560	4,729	—	—	—	—
October	—	2,750	19,800	5,470	—	—	2,800	—
November	—	660	18,720	3,510	9,000	—	12,200	—
December	—	—	2,340	2,186	—	—	9,600	—
TOTAL	37,440	53,184	442,690	104,334	868,675	15,334	27,400	—

THE POULTRY INDUSTRY

Egg marketings at registered egg grading stations are indicated in Table XI. These receipts represent about 40% of the total production, the balance being sold direct by the producer, farm consumed or used for hatching purposes. Weighted egg prices to producers increased 1.4 cents per dozen over 1960.

TABLE XI

	Egg Receipts at Registered Egg Grading Stations (30 dozen cases)	Weighted Egg Price to Producers by Grade per Dozen
1957	676,709	26.4 cents
1958	652,180	25.6 cents
1959	563,471	24.7 cents
1960	497,537	23.2 cents
1961	485,324	24.4 cents

TABLE XII

POULTRY EVISCEATED IN REGISTERED STATIONS (Pounds)

Year	CHICKENS		Fowl	Ducks
	Under 4 lb.	Over 4 lb.		
1957	4,363,666	1,559,402	3,181,891	56,643
1958	3,821,000	1,245,000	2,312,000	25,000
1959	5,628,526	1,134,345	2,059,150	29,810
1960	7,807,623	848,534	2,053,831	33,507
1961	14,121,713	1,372,489	2,334,092	5,348

Year	TURKEYS			GEESE
	Under 8 lb.	8 to 16 lb.	Over 16 lb.	
1957	—	—	6,881,831	271,931
1958	—	—	7,481,000	794,000
1959	—	—	8,722,805	313,158
1960	—	—	9,167,814	418,787
1961	337,973	7,109,576	7,106,494	14,554,043
				556,451

The laying hen numbers and market turkey numbers on Alberta farms is indicated in Table XIII.

TABLE XIII
FARM POPULATION

Year	Laying Birds	Turkeys
1957 (D.B.S.)	2,900,000	860,000
1958	3,010,000	975,000
1959	2,925,000	1,056,000
1960	2,825,000	975,000
1961	2,730,000	1,280,000

ALBERTA RANDOM SAMPLE TEST

The Alberta Random Sample Test was established to evaluate and compare egg production strains of poultry available to farmers in the province. This Test was of 500 days duration and data was compiled from incubation through twelve months of lay.

Four tests have been completed and the fifth was currently underway. Entries were selected first from Alberta breeders and then from breeders in other provinces and the United States. Selection of entries from these latter breeders was contingent on their sales of stock in Alberta.

The level of performance from the first to the fourth test, based on egg production per hen housed, increased 14 %, mainly due to improved breeding and to more proven matings being entered. The following table compares average egg production and average laying house mortality for the four completed tests.

Test	Egg Production per Hen Housed	Laying House Mortality
First	201.2	14.8%
Second	219.7	10.7%
Third	213.8	9.0%
Fourth	229.3	6.6%

The fourth test again showed that Alberta breeders had stock equal or superior to competing imports. An Alberta breeder led the first Test, two Alberta breeders the third Test, and one Alberta breeder the fourth Test.

The following table indicates the performance of the entries in the fourth Test in some of the economic factors tested for:

TABLE XIV
FOURTH ALBERTA RANDOM SAMPLE TEST

Entrant	Egg Prod. Per Hen Housed	% Grade A Large Eggs	% Laying House Mortality	Lbs. Feed per Dozen Eggs	Net Income Per Hen Housed
1	251.0	58.2	2.0	4.6	\$2.39
2	238.1	54.0	8.0	4.4	2.02
3	239.7	72.5	5.0	5.0	2.34
4	245.2	59.6	5.0	4.5	2.34
5	240.1	65.3	4.7	4.5	2.40
6	232.7	60.2	4.0	4.5	2.08
7	245.2	63.6	4.0	4.4	2.41
8	236.6	60.9	4.0	4.5	2.20
9	164.2	59.5	22.0	5.8	.76
10	207.8	46.8	6.0	5.0	1.23
11	223.4	65.1	8.0	5.1	1.63
Average	229.3	60.5	6.6	4.7	1.98

Detailed reports were forwarded to the entrants at three month intervals, and the final report was distributed to a large mailing list and was made available for publication in poultry journals.

POULTRY SHOWS

The Toronto Royal Winter Fair was held again in November with entries of dressed poultry by producers and by commercial firms. Entries were pre-selected and only those of merit were forwarded. This dressed show was considered the show window of the industry and exhibiting there was of considerable value to producers as a whole, as Eastern Canada represents the largest consuming centre.

ROYAL WINTER FAIR POULTRY PRODUCTS SHOW

(Alberta Awards)

	1957	1958	1959	1960	1961
Championships	1	.....	.....	.....	.....
First	18	5	17	.....	3
Seconds	15	12	3	4	4
Thirds	2	.....	.....	.....	1
Total	36	17	20	4	8

The Alberta Poultry Show was held in Calgary in December and attracted greater entrant and public interest.

BRANCH ACTIVITIES

The following table indicates in part the scope of branch personnel activities:

Territory	Re-inspection of hatching egg flocks		Service Calls		Producer Vendor Calls		Broiler Grower Calls		Meetings, Short Courses	
	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961
1	69	14	98	109	.....	42	.....	15	2	4
2	152	106	95	86	.....	13	.....	5	3	5
3	165	70	48	45	.....	10	.....	8	1	0
4	98	47	37	53	.....	3	.....	4	2	1
5	140	96	52	47	.....	15	.....	12	2	4
6	30	29	38	63	.....	41	.....	0	3	9
Total	654	362	368	403	214	124	95	44	13	23

A total of 933 farm visits were made in 1961. These were in response to requests by producers and in addition to visits made in administering Poultry Branch policies. The Eleventh Annual Hatcheryman's Short Course was held in Edmonton in November. Interest in this meeting continued keen as indicated by large attendance of those engaged in this field.

A Hatchery Sanitation Control Testing Program, commenced last year, was continued. It was a voluntary program. However, 100% of the hatchery operators were co-operating and participating.

A series of meetings (8) with egg grading station operators and producer vendors (7) was conducted jointly with the Canada Department of Agriculture, Poultry Division.

A poultry cost-study survey was commenced this year by the Poultry and Farm Economics Branches. It was anticipated that this will carry on for a minimum of 3 years. There were 16 farmers co-operating with flock sizes ranging from 500 to 10,000.

The Poultry Commissioner attended annual meetings of the Canadian Produce Association (Western Division) and the Canadian Hatchery Federation. He and/or members of the Poultry Branch attended meetings of various segment groups of the industry.

Report of the Fur Farms Branch

R. W. GILLIES

Fur Farm Supervisor

General:

The year 1960-61 was a rather critical period for Alberta and World mink farmers. Alberta mink farmers shipped 146,590 mink pelts of all types and exported 2,333 live mink. This represented the greatest number of mink exported since the year of 1956-57, but due to the 25 to 30% drop in the pelt market, it has resulted in one of Alberta's worst income years for the number of pelts marketed. The total value of mink, both pelts and livestock, exported this season, is estimated at \$2,430,635.00. Mink farmers seem to have adjusted to this decrease in pelt values, and very little, if any, decrease in fur farm licenses is expected.

Chinchilla records show that 812 pelts were exported, which was a slight gain over the previous year.

Health:

Ten cases of distemper were diagnosed—mortality in all cases but one was relatively minor. One new case of Virus Enteritis was reported in the Calgary area and the previous case of a year ago was successfully arrested with no recurrence. The co-operation of the Calgary mink farmers in this outbreak was most commendable. The voluntary co-operation together with existing regulations, confined this disease to the one area. This same disease was prevalent in most areas outside of Alberta.

Field Days and Show:

Were again resumed in the Province with Annual Live Mink Show being held at Canyon Creek under direction of the Canyon Creek-Widewater and Provincial associations. This was the first time that the annual show was held North of Edmonton, and also the first time that the show consisted of an all male entry. Both these firsts proved most successful and the "All Male Live Mink Show" was one of the best ever held in this Province.

Successful Field Days were conducted at Lac La Biche and at Calgary. The judge at Field Days and Show was Ted Pappas Jr. of the Western Canadian Raw Fur Auction Sales Ltd., Vancouver, B.C. Fay Blaine of Calgary was assistant judge at the Annual Show. Combined meeting and social was held at each location and the messages presented by the various speakers were well received by exceedingly well attended gatherings.

The Provincial Chinchilla Breeders' Association held its annual Educational Field Day at Lacombe on September 10, 1961.

Fur Breeders Associations:

Continued to be active both in the affairs of the mink breeders and in the affairs of the chinchilla raisers. This Branch continued to assist these associations when called upon to do so.

The National Chinchilla Breeders of Canada held their Annual National Convention in Calgary on November 4, 1961, and the Department of Agriculture was host to delegates at a banquet meeting.

Office Extension:

The long established program of mutual assistance was maintained with all phases of the fur raising industry.

Current Conditions:

The fur market of December, 1961, opened at prices about equal to a year ago, but with an improved and buoyant turnover of goods. An unexplainable poor fishing season was experienced in Alberta's Northern Areas this past summer. If fishing in the 1962 season should return to normal it will alleviate the situation considerably, but if conditions should repeat themselves it will be most critical. Substitute feeds not normally used in these areas might have to be utilized if mink are to be maintained in present quantities.

Chinchilla pelts seem to be readily absorbed by the trade. Nutria was obtaining just limited support and was not progressing to any great extent in this Province.

FUR FARM STATISTICS UP TO AUGUST 31, 1961

Number of Animals Declared on Fur Farms in Alberta 1960-61

Kind of Animals	Total No. of Animals	Av. Value Per Animal Sept. 1960	Total Valuation
Mink Standards	55,945	\$14.50	\$ 811,202.50
Mink Mutations	158,421	15.50	2,455,525.50
Chinchilla	3,982	15.00	59,730.00
Fox	79	10.00	790.00
Nutria	446	5.00	2,230.00
Misc.	23	15.00	345.00
	<hr/> 218,896		<hr/> \$3,329,823.00

Livestock Value on a pelt basis

Number of Animals pelted on Fur Farms in Alberta 1960-61

Kind of Animals	Total No. of Animals	Av. Value per Animal Fall, 1960	Total Valuation
Mink Standards	38,250	\$14.50	\$ 554,625.00
Mink Mutations	108,340	15.50	1,679,270.00
Chinchilla	812	15.00	12,180.00
Fox	28	10.00	280.00
Nutria	97	5.00	485.00
Misc.	Nil		
	<hr/> 147,527		<hr/> \$2,246,840.00

Number of Live Animals Exported from Alberta 1960-61

Kind of Animals	Total No. of Animals	Av. Value per Animal	Total Valuation
Mink Standards	347	\$80.00	\$ 27,760.00
Mink Mutations	1,988	85.00	168,980.00
Chinchilla	391	30.00	11,730.00
Misc.	10	50.00	500.00
Nutria	1	75.00	75.00
	<hr/> 2,737		<hr/> \$ 209,045.00

Number of Animals retained for Breeding Stock in Alberta 1960 - 61

Kind of Animals	Total No. of Animals	Av. Value per Animal	Total Valuation
Mink Standards	17,348	\$14.50	\$ 251,546.00
Mink Mutations	48,093	15.50	745,441.50
Chinchilla	2,779	15.00	41,685.00
Fox	51	10.00	510.00
Nutria	348	5.00	1,740.00
Misc.	13	20.00	260.00
	<hr/> 68,632		<hr/> \$1,041,182.50

Breeding Stock valued on pelt basis**Fur Farm Licenses 1960 - 61**

Mink	306
Mink, Marten and Chinchilla	1
Mink and Fox	2
Chinchilla	87
Nutria	18
Chinchilla and Nutria	2
Miscellaneous	2
	<hr/> 418

Report of the Water Resources Branch

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R. E. Bailey, B.Sc., P. Eng., Chief Engineer
J. L. Reid, B.Sc., P. Eng., Supervisor, Hydroelectric Development
J. Mould, M.Sc., P. Eng., Supervisor of Irrigation And Drainage
A. G. Underhill, B.Sc., P. Eng., District Engineer, Calgary
R. J. Knight, B.Sc., P. Eng., District Engineer, Lethbridge
R. L. Francis, B.Sc., P. Eng., Construction Engineer, S.M.R.D.
E. T. Dean, A.I.M.M.E., Construction Engineer, Edmonton

Hydraulic Engineers

W. Solodzuk, B.Sc., P. Eng. B. L. Potter, B.Sc., P. Eng.
W. R. Bishop, B.Sc., P. Eng. R. K. Deeprose, M.Sc., A.S.C.E., P. Eng.
I. H. Anderson, B.Sc., P. Eng. A. R. Strome, B.Sc., P. Eng.
A. E. Murray, M.E.I.C., Office Engineer
D. E. Bowman, Groundwater Technician

Introduction

The Water Resources Branch has experienced another very active year in all aspects of its work. The number of applications for water rights for domestic and irrigation use increased. Construction of drainage and flood control works in the Peace River area was continued and several new principal proposals were surveyed and studied. Further field surveys on the William Pearce Project were undertaken and the majority of the field information has now been obtained. It is anticipated that an additional two years will be required for analysis and the compiling of specific proposals for this project. The long range program of locating and investigating potential dam sites for water conservation and the general appraisal of the water resources of the province progressed successfully. On the St. Mary and Milk Rivers Development and the Bow River Development there was increased concentration on the work necessary to combat alkali and seepage problems. Further public interest was expressed in the possibility of a supply of water for the Bow River Development, East Block, particularly in that area north of Redcliff.

In February the Water Resources offices were transferred from the old Terrace Building to temporary quarters in the Brock Building in downtown Edmonton.

The Calgary division office was subjected to some inconvenience. The building in which the offices were located was destroyed by fire in December. With the exception of some 3,000 plans formerly obtained from the Federal Water Resources Department and a few instruments, which were stored in the vault, all other files, plans and equipment were a total loss.

For the fourth consecutive year it must be reported that, in general, Alberta experienced a drier than normal year. In particular, the southern portion of the province was subjected to drought

conditions. From Table I it can be seen that the precipitation throughout the province was below the long time average for the period October 1960 to September 1961. However, during the months of April through July the northern portions of the province experienced above average precipitation and the harvest of agricultural products was consequently fairly successful in this area. In contrast the Lethbridge, Brooks, Medicine Hat districts and particularly the Special Areas experienced a very small amount of spring runoff and throughout the year natural precipitation was very sparse indeed.

TABLE I

1961 Precipitation (inches) Variation from Average Precipitation

Area Stations	April, May, June	April May, June, July	Oct./60 Sept./60	April, May, June	April, May, June, July	Oct./60 Sept./60
1. Beaverlodge, Grande						
Prairie, Fairview	7.0	9.4	17.1	+2.5	+2.5	—0.8
Grande Prairie	7.1	9.8	17.8	+2.5	+2.6	—0.5
2. Athabasca, Lac La						
Biche, Elk Point	6.3	10.0	16.3	+1.2	+2.2	—0.9
Athabasca	6.1	10.5	17.1	+1.1	+2.6	—0.3
3. Edmonton, Lacombe						
Stettler	3.8	7.1	12.4	—2.5	—2.0	—5.0
Edmonton	3.7	7.4	13.3	—2.5	—1.6	—4.3
4. Hanna, Coronation						
Naco	3.4	4.8	9.7	—1.1	—1.9	—3.2
Hanna	3.1	4.7	10.1	—1.7	—2.3	—2.4
5. Olds, Calgary						
High River	4.6	8.9	16.8	—2.3	+0.2	—1.7
Calgary	3.6	9.7	15.3	—2.9	+0.6	—2.2
6. Fort Macleod						
Lethbridge, Raymond ...	4.9	7.8	15.4	—1.4	—0.3	—1.2
Lethbridge	4.3	7.2	14.3	—2.0	—0.8	—2.4
7. Brooks, Vauxhall						
Foremost, Groton						
Seven Persons						
Winnifred	1.8	3.1	7.8	—3.1	—3.3	—5.3
Brooks	2.1	3.4	8.0	—2.4	—2.7	—5.3

As a consequence, the irrigation systems again experienced a very heavy demand and many smaller domestic and stock-watering schemes were hard pressed or found incapable of supplying sufficient water to meet demands. The towns of Holden, Viking and Thorsby were, in particular, faced with a serious water shortage problem. In response to a request from these centres, the Government undertook an emergency assistance program whereby Water Resources crews pumped water from the nearest available source to replenish the reservoirs for these towns. An amount of five million gallons was pumped over a distance of four miles to the Town of Holden. At Viking it was necessary to convey approximately ten million gallons of water through pipes over a distance of seven miles. The town of Thorsby will be provided with crews and equipment when the pumping operations are completed at Viking.

A second emergency assistance program was initiated in the form of a joint municipal-federal-provincial arrangement which

provided for assistance to municipalities in the drilling of community wells to be used for agricultural purposes. The area eligible for this assistance was confined to the south-eastern part of the province and included:

Improvement Districts 11 and 22

County of Forty Mile No. 8

The eastern portion of the County of Warner No. 5

The eastern portion of the County of Vulcan No. 2

The eastern portion of the County of Wheatland No. 16

The eastern portion of the Municipal District of Starland No. 47

Municipal District of Acadia No. 34

Special Areas 2 and 3

In this program the municipality is the initiating agency.

The Water Resources Branch carry out the necessary investigations assisted where necessary by the Alberta Research Council and prepare the necessary plans and specifications. Once having received Water Resources approval, the proposal is submitted to the P.F.R.A. of the Federal Government for approval and they, together with the Provincial Government, share 70 % of the costs involved.

In the fall of the year many of the stock raisers in south-eastern Alberta were faced with shortages of stock water and it became necessary for them to acquire pumps and pipe in an endeavour to replenish these supplies. In view of this, the assistance policy was initiated and is patterned after a similar policy adopted by the Governments of Manitoba and Saskatchewan.

In the south-western portion of the province the mountain fed rivers and streams were ironically above normal in their peak flows during the spring. Flooding occurred at Canmore on the Bow River and at some locations along the Elbow River. These flows decreased as the year progressed and some of the perennial streams had extremely low flows or ceased flowing altogether.

Small project reservoirs for stockwatering supply or for domestic purposes were very seriously depleted by the fall of the year and unless a good spring runoff is experienced in 1962, water shortages will be even more severe and critical than has been experienced in the past two years.

Prairie Provinces Water Board and The "Resources for Tomorrow" Conference

These two topics have been placed together deliberately since they have several features in common. For example, the problems of water administration across provincial boundaries is a common consideration.

The water resources background papers prepared for the week long conference all had a slant in favor of regimentation by water authorities. Even the Prairie Provinces Water Board was "damned with faint praise" in the background papers and this moved the Board to present a protest which asked for the simple courtesy of recognition of their democratic approach to the problems of water administration.

At the opening of the Conference the Prime Minister quickly dispelled any ideas that the Dominion would invade the field of provincial control over resources. Many expert legal men examined the possibilities of loopholes in the B.N.A. Act that would permit greater authority by the Dominion in the resources field, but the Prime Minister's opening remarks established the general thinking of the Conference along democratic principles.

Two regular meetings of The Prairie Provinces Water Board were held in Winnipeg on June 14 and December 6 but there was a special meeting at the Resources for Tomorrow Conference in Montreal on October 24 to consider the form of a complaint to the Secretariat that the work of the Prairie Provinces Water Board had been largely ignored in the background papers.

Manitoba has requested that additional water be diverted down the Qu'Appelle-Assiniboine River system from the South Saskatchewan River dam. This request seems to be based on the long range need for domestic, industrial and irrigation use. As this is in line with the original plans of the Reclamation Service, Department of the Interior, involving the use of water for preferred purposes, the approval of the Province of Alberta of the Manitoba request will be automatic.

It is felt that the long range water administration policy in Alberta is basically sound. Eventually Alberta will be faced with the same problems that are now being faced in the western United States.

In the field of water resource development in Alberta for 1961, we can look back on a year of sound accomplishment which includes:

- (1) construction by the Province of Alberta and Calgary Power Ltd. of the Brazeau Dam for hydro power and multiple purpose benefits;
- (2) construction by the P.F.R.A. of the Waterton Dam. This will provide storage of 140,000 acre feet and is the last major structure on the S.M.R.D. diversion works. Canada has now assured her right to a portion of the flow of the Waterton, Belly and St. Mary Rivers, all of which are international streams;
- (3) diversion of water for irrigation reached a new all time high and it must be noted that this includes water for domestic and municipal use;
- (4) the Heart River Project in the Peace River country functioned perfectly as a multiple purpose project. This project was completed in 1960.

ADMINISTRATIVE ENGINEERING

Water Rights

During the year 307 applications for water rights were received as compared to 235 in the previous year. A breakdown of applications as related to purpose and to drainage basins is here shown:

TABLE II

Name of Basin	Dom.	Mun.	Irr.	Ind.	Power	Other	Totals
Athabasca River	9	.....	.....	1	.....	.....	10
Battle Creek .....	.....	.....	.....	.....	.....	.....	.....
Bow River	15	.....	5	1	.....	1	22
Forty Mile Lake	2	.....	.....	.....	.....	.....	2
Great Sandhills Lake	4	.....	2	.....	.....	.....	6
Lodge Creek	1	.....	.....	.....	.....	.....	1
McGregor Lake .....	.....	.....	1	.....	.....	.....	1
Manito Lake	7	.....	2	.....	.....	.....	9
Many Island Lake	10	.....	1	.....	.....	.....	11
Milk River	9	1	9	0	.....	.....	19
North Sask. River	22	1	7	4	.....	.....	34
Oldman River	35	.....	27	2	.....	1	65
Pakowki Lake	4	.....	5	.....	.....	.....	9
Peace River .....	.....	.....	1	.....	.....	.....	1
Red Deer River	37	.....	15	.....	.....	2	54
Sevenpersons Creek	34	.....	13	.....	.....	.....	47
South Sask. River	10	.....	2	.....	.....	.....	12
Sullivan Lake	1	.....	1	.....	.....	.....	2
Tide Lake .....	.....	.....	1	.....	.....	.....	1
Wildhorse Lake	1	.....	.....	.....	.....	.....	1
Totals	201	2	92	8	.....	4	307

There were 33 more applications for domestic purposes, and 39 more for irrigation purposes than in the year 1959. There were 270 Interim Licenses issued during the year.

Land and Right-of-Way

Plans of survey for right-of-way in connection with both the St. Mary and Milk Rivers Development and the Bow River Development are received in this office and approved before proceeding to the Registrar. At the present stage of development most of these surveys are for laterals and drainage canals and some 62 such plans have been registered, 19 in the Bow River Development area and 43 in the St. Mary and Milk Rivers Development.

Irrigation

Water agreements between the Managers of the St. Mary and Milk Rivers Development and the Bow River Development and the farmers are registered and filed in the Water Resources Office. One hundred and twenty-three such agreements were received in 1961.

The following Table III shows the major districts in Alberta and the areas actually receiving water during 1960 in relation to the potentially irrigable areas within each district.

TABLE III

Name of District	Potential Area	Receiving Water 1960	Source of Supply
St. Mary and Milk Rivers Dev't.....	259,861 ac.	129,829 ac.	St. Mary River
Magrath Irrigation District.....	7,015 "	5,000 "	} All through the works of The S.M.M.R.D.
Raymond Irrigation District.....	19,751 "	15,200 "	
Taber Irrigation District.....	31,419 "	29,448 "	
Western Irrigation District.....	75,000 "	12,000 "	Bow River
Eastern Irrigation District.....	250,000 "	189,761 "	Bow River
Bow River Dev't. (Federal).....	94,783 "	66,117 "	Bow River
Bow River Dev't. (Provincial).....	36,000 "	5,275 "	Bow River
Mountain View Irr. District.....	3,719 "	2,789 "	Belly River
Leavitt Irrigation District.....	4,631 "	1,542 "	Belly River
Aetna Irrigation District.....	8,303 "	440 "	Belly River
United Irrigation District.....	34,034 "	16,536 "	Belly River
Lethbridge Northern Irr. District.....	90,757 "	71,006 "	Oldman River
Macleod Irrigation District.....	(Not operating)		Oldman River
Ross Creek Irrigation District.....	2,069 "	405 "	Gros Ventre Creek
TOTALS	920,342 acs.	545,348 acs.	

Inspection Services and Special Investigations

During 1961 127 complaints were investigated by the Water Resources Office. The problems pertained to municipalities, individual farmers or groups of farmers, and some 70 miles of survey was carried out in the course of investigations.

Due to the dryness of the past summer, particularly in the central and southern parts of the province, a new trend was very noticeable. Requests for permission to construct small dams for stockwatering purposes became more common, as well as proposals to construct dams for recreational purposes. Many farmers took advantage of the dry condition of small sloughs and lakes to improve outlet conditions and thereby utilize the normally wet portion of their land. Rainfall, as compared with 1960, decreased somewhat in the northeast portion of the province allowing lakes, such as Lac La Biche and Cold Lake as well as small bodies of water, to recede to more normal levels.

Financial Assistance Policy

The Financial Assistance Policy has continued under the same conditions since inception in 1954. Briefly, this policy extends financial aid to towns, villages, counties, municipal districts, drainage districts and local improvement districts facing serious drainage and flood control problems. The initiating authority must assume the responsibility of the project while the government pays one-half of the total cost of the project up to a stated maximum. Due to below normal runoff there was a noticeable decrease in the total amount of financial aid authorized in 1961, an amount of \$27,500 as compared to \$38,525 in 1960. Table IV shows a summary of expenditures on the Financial Assistance Policy since its inception in 1954.

TABLE IV
Total amount allocated as per Order-in-Council
 (up to December 19/61)

		Total Amount Paid
1954 - 55	\$ 5,000.00	\$ 2,449.42
1955 - 56	24,500.00	10,566.19
1956 - 57	70,500.00	46,833.51
1957 - 58	54,250.00	54,616.48
1958 - 59	20,450.00	61,131.28
1959 - 60	60,900.00	31,130.95
1960 - 61	38,525.00	29,353.33
1961 - 62	27,500.00	14,643.83
	\$301,625.00	\$250,724.99

Drainage Districts

The total number of drainage districts remains unchanged from a year ago. There are nine drainage districts in the province and collectively they constitute a total area of 189,200 acres, of which 75,647 acres received direct benefit. There were no serious problems as runoff resulting from snow melt and precipitation were below normal. Some of the districts, however, received financial aid under the Financial Assistance Policy to increase the capacity of their ditch system at locations that have proven inadequate in the past.

Gravel Removal

The removal of gravel has again presented some problems and modification in removal and some lease cancellations have been requested. The Department of Lands and Forests are now drafting regulations and some suggestions have been made in regard to clauses governing lessees. It has been observed that gravel removal throughout the province has been done in a haphazard fashion and in many cases has caused difficulty to river beds, banks and landowners.

Planning Commission Investigations

In compliance with Section 94, which was incorporated into the Water Resources Act in 1960, a substantial number of inspections were carried out with respect to applications received by the Edmonton District Planning Commission for subdivision of property on lands adjacent to bodies of water.

One of the more significant of these investigations was undertaken during the past year at the Town of Whitecourt which is located on the flood plain of the Athabasca River and in the past, from time to time, has been the victim of severe damage due to flooding from the river. The area also contains a high groundwater condition and the purpose of the investigations was to determine which areas should be restricted from any type of development and those areas on which would be allowed a certain amount of limited development. River discharge records were studied and a groundwater survey carried out. The results of these investigations were plotted on a master plan and submitted to the Planning Commission to serve as a guide in programming the future development of this town.

Legislation

The Water Resources Act was amended in 1961 with the addition of Section 6, subsection 2 which authorizes the Director of Water Resources to breach or destroy any manner of obstruction that diverts or interferes with the flow of any water in the province.

HYDROLOGY

Three phases of activity were involved in the Hydrological program during the year: data compilation, scientific analysis and the gathering of original data in the field. Data compilation continued along the lines mentioned in the 1959 Annual Report. Several more years will be required to bring this work up to date.

Most of the analytical work was directed toward the extension of knowledge concerning hydrologic factors from measured streams to those areas where records are meagre or non-existent. The immediate objective is the determination of flood frequencies for all mountain and foothill streams in the eastern Rockies. This information will be essential for flood routing and the design of spillways in the William Pearce Scheme or any other major project on Alberta rivers.

The consideration of precipitation became an important part of the hydrology division's work during the year. The tedious but essential task of data compilation was accompanied by a preliminary precipitation runoff study on several Alberta stream basins.

Field studies involved both a continuing program of crest stage gauge installation and maintenance, and a program of river surveys. Crest stage gauges now provide peak flood data on about 90 streams in the province supplementing the stations of the Dominion Water Resources Branch.

Snow Survey

The annual snow survey of the Wabash Creek, Paddle River and the Pembina River drainage basins was continued in 1961. The snow survey program was initiated in 1958 to establish a runoff index by correlating annual snowfall with runoff that results from snow melt. Snow surveys measure the water content of the snow along a few snow courses and this information provides an index to the snow water accumulation over the entire watershed.

The greater part of the annual flow in these streams is delivered in spring from runoff that is derived from snow melt. By measuring the total flow in each stream during the latter part of March and the first part of April a correlation between annual snowfall and annual runoff can then be made. This information is useful in the design of drainage projects, flood control projects and to forecast water supplies. These drainage basins are representative basins in north-central Alberta and this data may be extrapolated to forecast runoff on other basins.

GROUND WATER

General

In considering precipitation as the controlling factor in ground water recharge, there has been relatively little change over most of the province. Precipitation seemed to gradually decrease from the north to the south. For instance, in the Peace River block the totals were approximately two inches above average. In central Alberta the totals were generally about two to three inches below the long term average and in the southeast corner of the province the total precipitation dropped to six inches below average. It is interesting to note that precipitation has been below average in central and southern Alberta for the past five years and although groundwater shortage has not been apparent, it is certain that recharge is down in the southeast portion of the province.

Due to the lack of precipitation and runoff in the Special Areas and adjoining municipalities to the south, a serious surface water shortage problem has arisen. A federal-provincial-municipal program to give impetus to drilling of community water wells in the prairie provinces was initiated in October and is expected to assist this drought section of Alberta.

Inspections

Approximately 147 field inspections were carried out in the interests of investigating complaints, checking water well drillers, taking lake levels and inspecting community water supplies.

Water Well Drillers

The registration of water well drillers and the number of reports submitted increased during the year. The following figures will serve to show the gradual increase in the past few years:

Year	Registered Drillers	No. of Reports
1956	93	170
1957	102	316
1958	161	1,100
1959	185	1,050
1960	189	1,005
1961	201	1,221

Lake Levels

Most lakes in south-central Alberta experienced a slight decline during the year while Lesser Slave Lake showed a small rise. Lac La Biche which rose over three feet last year has lowered again to near normal.

Some concern has been experienced by cottage owners on some of the resort lakes with respect to the low water conditions, particularly Gull Lake. The natural fluctuations in lake levels due to natural conditions has proved satisfactory in stabilizing most lakes, however, in the case of Gull Lake, which has an extremely limited drainage basin, the decline seems sustained.

The following list shows a comparison of median levels for some of the major lakes during the past few years:

	1958	1959	1960	1961
Gull	92.03	91.24	91.29	90.29
Sylvan	78.17	77.50	78.05	77.58
Cooking	97.00	96.63	96.58	96.29
Buffalo	86.16	85.54	85.60	84.57
Wabamun	71.20	71.10	71.08	70.53
Pigeon	100.48	100.00	100.00	99.51
Lac Ste Anne	97.07	97.26	97.57	97.14
Lac La Biche	96.18	97.03	100.55	97.82
Lesser Slave	93.10	90.68	90.17	90.64

From time to time in the past various requests have been received with regard to the possibility of stabilizing the water level in Gull Lake. Because of the very dry year in 1961 and the lowering of our lake levels due to high evaporation losses, the recession at Gull Lake was particularly noticeable and the cottage owners and residents in the area renewed their request with increased vigor.

Although the possibility of diverting the Blindman River into Gull Lake has been looked at on various occasions in the past, a further survey was made in this regard during the year without producing any new optimistic suggestions. Some consideration was given, however, to the possibility of diverting Lloyd Creek, the north branch of the Blindman River, into the north end of Gull Lake. This idea showed some potential promise, but a considerable amount of additional investigation will have to be carried out before the true merits of this proposal can be ascertained.

Lake Bed Surveys

The lake survey program was continued in 1961 and the following lakes were surveyed:

Long Island Lake	Baptiste Lake	Pigeon Lake
Cross Lake	Lac Ste Anne	Sylvan Lake (completed)
Lac La Nonne	Gull Lake (completed)	Cold Lake

The information obtained from this type of survey is incorporated in a plan showing depth contours, inlets and outlets. This information is available to the general public and other departments.

CONSERVATION AND DEVELOPMENT OF WATER RESOURCES

In keeping with our established policy of investigating and appraising potential water conservation projects and future efficient development of water resources to maximum benefit, studies continued through the 1961 season on various possible projects of this kind.

These investigations consist of topographic surveys which may be carried out by conventional means or by use of a special flight of aerial photography. The centre line of a proposed dam is cleared and profiles and cross-sections taken. Geological studies are made, assisted by program of foundation drilling to

obtain samples of sub-surface material for analysis. Airphoto interpretation studies augment geological investigations as well as provide means to determine potential supplies of construction materials. Land searches are conducted and reservations placed on those lands included in the proposed reservoir. When field investigations have been completed, preliminary design considerations are undertaken. Such investigation and design work usually takes two to three years to complete on any one site.

In addition to the field investigations an intensive hydrology study will be made of the various drainage basins involved in order to ascertain the possible flood flows to be expected, particularly on those rivers which are not included in the regular metering program of the Federal Water Resources Branch. River engineering studies will also have to be conducted in order to determine what effect the imposing of artificial flows will have on the regime of the particular river.

Of those investigations undertaken during the year, one of the more significant is that of the Carvel damsite on the North Saskatchewan River. General surveys were completed on this proposal and some preliminary drilling was undertaken. Further sub-surface information was obtained through the use of a portable seismic unit.

To date, investigations have been initiated in some fifteen such damsites extending from the Castle River west of Pincher Creek as far as Pouce Coupe in the Peace River area.

Further details on the individual projects will be reported in future annual reports as investigations and studies become completed.

DRAINAGE AND FLOOD CONTROL

The majority of the drainage and flood control works constructed during the year were done so under a fifty-fifty financial agreement with counties or municipalities. Several other proposals were surveyed and investigated in compliance with requests received for drainage or flood control measures.

Sylvester Creek

A flooding problem on Sylvester Creek, located southwest of Beaverlodge, was first brought to the attention of this Department in 1953. Various investigations and surveys were made from time to time indicating that this was a project of some magnitude, the cost of which would be more than could be borne by a few individuals. Finally, this year the County of Grande Prairie requested a report and cost estimate on carrying out this work with a view to applying for a fifty-fifty financial assistance agreement.

The project was approved and constructed. It involved the cleaning out and improvement of approximately seven miles of creek channel and construction of cut-offs which will alleviate spring flooding conditions, resulting in benefits to some 1500 acres of farmland as well as several district roads and school bus routes.

Vixen Creek

The Vixen Creek flooding problem was first reported to the Department in 1952 at which time certain remedial measures were laid out with the idea that the landowners in the area, who are victims of the flooding condition, would each contribute to the cost of the remedial measures. However, two landowners, through whose property the creek passes, were not co-operative and because of this construction of the works was prevented until some amicable solution or alternative proposal could be presented. After numerous unsuccessful attempts, a solution was finally determined this year and construction of the works carried out to completion.

These works consisted of constructing two miles of new channel to by-pass low lying areas along the natural route of Vixen Creek which was subject to extreme flooding every year. The project benefits about 2000 acres of agricultural land occupied by ten landowners. The work was done on a fifty-fifty financial assistance agreement with the Department of Municipal Affairs since the project is located in Improvement District 132 north of Wanham.

Red Deer River at Sundre

As reported in the 1960 Annual Report, in the fall of that year a groyne was constructed on the Red Deer River near Sundre for the purpose of insuring that the channel of the river did not shift during flood periods and thereby cause extensive damage to property and the highway because of severe flooding and erosion. It was also mentioned that it was fully realized that additional similar structures may be required before an effective control could be established. Accordingly, a second groyne was built in the fall of 1961 located upstream from that built in 1960. This groyne diverted the river out of a meander channel back into its former original channel and it is anticipated that these two groynes will now act as a safeguard against the tendency of the river to alter its course in an easterly direction.

The situation will be kept under close observation to determine the effectiveness of the work so far done and the possible need for additional controls in the future.

Manning Drainage Project

The original Manning Drainage Project was first undertaken in 1952. It is located east of the Town of Manning and at that time the country was being newly developed as a farming area. The ditches were constructed by the individual landowners at their own expense and have been similarly operated and maintained since that time.

In recent years a much larger area has been developed for agricultural purposes and the Department has received petitions and requests to consider an extension to the original project to facilitate additional drainage in these new areas.

Surveys and investigations were carried out during 1961 and these have now been completed and the project is ready for construction as soon as financial arrangements have been concluded.

This project could be divided into three separate divisions and carried out over a period of two or three years. Ultimately the constructed works would benefit some 6000 acres of farmland as well as various municipal and district roads.

Hotchkiss Drainage Project

A request from the farmers in an area near Hotchkiss initiated investigations into a flooding problem effecting about 4000 acres of agricultural land. These surveys were completed during the year and the project is ready for construction pending final approval and arrangements for financing.

Like the Manning Project, it could be divided into sections and constructed over a period of two years. The farmers of the area have done some work on their own accord, however, there is a lack of an over-all scheme necessary to effect efficient drainage of the area as a whole.

Kleskun Lake Project

During the year several problems arose in the Kleskun Lake area. Many years ago a drainage and reclamation scheme was constructed under the Reclamation Service to transform the old bed of Kleskun Lake into land suitable for grazing and cultivation. The system of ditches is still used today, however, several blockages, principally resulting from beaver activity, was causing flooding and ineffectual functioning of these ditches. There was, apparently, two factions among the people in the area as to what was considered desirable with regard to the flow in the ditches. Some people relied on the water for stock-watering whereas others wished it to be drained away.

After surveys and several on-the-spot negotiations, an amicable agreement was promoted and the channels were cleared of obstructions with the use of dynamite and the services of the Game Branch of the Department of Lands and Forests.

Ferguson Lake Drainage Project

Ferguson Lake is located just west of Clairmont in the Peace River area. The history of this problem is long and involved and dates back as early as 1917. From time to time through the years the problem has been given consideration and some minor construction was undertaken by various individuals.

The matter was first brought to the attention of this Department in about 1953, however, it was the view of the Department that construction of the necessary works would be a major undertaking and the problem was not one which could be approached in a piece-meal fashion. The County did not feel at that time that they were in a position financially to bear the

costs of such works. It was therefore not until this year that the County specifically agreed to consider bearing a portion of the costs of remedial works and subsequently a full investigation and cost estimates were prepared. The County have approved the proposal and have agreed to bear half the cost provided a fifty-fifty financial assistance agreement can be arranged with the Provincial Government.

It is proposed that the works be undertaken over a period of three years and that the brushing and clearing required, be done as part of the Winter Works Program.

The benefits to be derived by such a project are numerous and significant. The completed project would alleviate flooding on at least 2000 acres of agricultural land, prevent the flooding and damage to two main highways and a railway grade, eliminate present costly annual maintenance on two district market roads, and would also facilitate the construction of six miles of district road presently impossible to construct because of flooding conditions.

The annual reports from 1957 to 1960 inclusive, outlined in progressive stages the origin and development of this project. Readers who are unfamiliar with this scheme are referred to these reports.

Briefly, the Pembina River Flood Control Project is designed to prevent the river from spilling into its natural flood plain. The engineering action employed is known as river training which primarily involves a co-ordinated system of eliminating exaggerated meander loops. The major zone is confined to this region. The constructed channel by-passing a meander loop is called a "cut-off". Five such cut-offs have so far been constructed, the last being completed in February of 1961. During the summer of this year, work was limited to observation of existing cut-offs to assess their effectiveness in reducing peak flows. The continuation of dropping river levels, together with the sedimentation of the old river loops was observed and found to be at a slightly reduced rate as compared to previous years. This reduction in the rate of development of the more recent cut-offs was due to extremely low flows in the river.

East and West Prairie Rivers Project

The background and history of this project is to be found in previous annual reports.

After three years of fairly intensive field investigations and studies, a report was compiled in this last season outlining various remedial proposals and corresponding cost estimates. A five-year construction program has been suggested to carry out this million dollar project. The Department is presently awaiting final approval of the scheme and if such is received, construction will be scheduled to commence early in 1962.

During the early part of 1961 the three-year program of clearing out trees along the banks of the West Prairie River was completed. About 60 river miles of the river have now

been cleared of all trees that could have washed or fallen into the river to cause log jams and resulting severe flooding.

During the year a reconnaissance survey was made by helicopter over both the East and West Prairie Rivers to appraise the work so far done and to outline the future program. Sites were chosen in the head reaches of these rivers for the construction of means which would create artificial log jams in uninhabited areas. These works were located above the clearing that has been completed so that any trees that should wash down from the upper reaches of the drainage basin would be collected and prevented from creating log jams in the settled areas downstream.

In the fall of the year these works were constructed and a clearing program was started along the banks of the East Prairie River similar to the program carried out on the West Prairie River. It is anticipated that about one more year of this type of work will complete the programs on this aspect of the problem.

WILLIAM PEARCE PROJECT

The history and purpose of the William Pearce Project may be found in the 1959 Annual Report.

Surveys and investigations were continued during the year and the major portion of the field information to be obtained has now been collected. Department engineers are currently analyzing this information with a view to presenting definite proposals and cost estimates which it is anticipated should be ready at the end of 1963 or early in 1964.

General public interest in the scheme continued to be apparent during the year. A meeting sponsored by The Western Canada Reclamation Association was held in Hanna at which were present representatives from the F.U.A., the P.F.R.R., Alberta Water Resources, the Government of Saskatchewan, M.L.A.'s, M.P.'s and numerous groups from Alberta and Saskatchewan who were vitally interested in the project. At the meeting a report was given as to the history, various possible proposals, and the progress of present day investigations of the project. Representatives from groups and organizations attending the meeting were asked to give an expression of their views and, in general, it may be said that there was unanimous support for the scheme, even though costs could run as high as one hundred million dollars.

The Water Resources representative explained that once a final report was submitted to the Provincial Government, the whole scheme would have to be assessed and appraised, firstly by the Irrigation Advisory Board and then by the Cabinet, in order to establish whether the cost-benefit aspect of the project would be in the best interest of the people of Alberta.

A representative from the Water Resources Department also addressed the Chamber of Commerce dinner meeting in Delburne during the year to inform the people of that area what was being undertaken in the way of surveys and for what purpose.

WATER POWER

Spray Storage and Power Development

Calgary Power Ltd. has undertaken extensive improvement on the Spray Canal which connects the Three Sisters Plant with the Spray headpond, allowing more water carrying capacity for the additional units installed last year at Spray and Rundle Plants.



BRAZEAU DAM UNDER CONSTRUCTION

Picture taken June 5, 1961

Looking south at south abutment—key trench in far background. Trucks and sprinkler at left are working on pervious downstream section. Sheepfoot roller and large scrapers in centre are working on impervious clay core. High embankment on right is the upstream cofferdam section. Dam was topped out late in the year and immediately used to store water for pollution abatement during winter months.

Note toe drain on extreme left. Pervious and impervious materials available in close proximity to site.

The project has proceeded very well during the last season. The portion of the dam in the river section has been completed to within ten feet of the height of the initial development. The storage for the initial development has been increased from a full supply level of 3,155 to 3,164. This increases the total available storage for the years 1962-63 and 1963-64 to 510,720 acre feet. When power development begins, this supply may be somewhat reduced as the lowest level for pumping is expected to be 3,102 which would give a somewhat lower live storage available.

During the year 1961, the gate was closed on October first and all Brazeau water was stored until November 22. In this period approximately 135,000 acre feet was stored. On November 22 the gate on one of the by-pass conduits was opened allowing approximately 600 cubic feet per second to pass. The flow took approximately 24 hours to reach the mouth of the Brazeau. This flow was increased gradually to 1,000 c.f.s. It was not until November 27 that noticeable increase was indicated in Edmonton. The present release from the Brazeau is in the order of 1,000 cubic feet per second and flows will be varied but will maintain this average. With inflow from the Brazeau and storage available, it is expected that the average of 1,000 cubic feet per second each day will be added to the flow of the North Saskatchewan. This should mean that flows will be in the order of 1,500 cubic feet per second for the winter of 1961-62. This increase will be very beneficial to industry and water supply in the whole of the North Saskatchewan River below the mouth of the Brazeau.

Athabasca River

Extensive surveys are being conducted on the Athabasca River and Lesser Slave Lake to determine the quantities of storage available and head that can be developed. Economics of transmission and storage development are also being considered.

International Streams

Inspections have been made on three streams that cross the international boundary.

First, from the eastern side of the province, Sage Creek has again been closely inspected. Due to the extremely dry year, no flood irrigation was done on the Canadian side of the boundary. All flow passed to the United States and, in spite of the fact that they received all the flow, this did a very limited amount of good and was still insufficient to produce a crop. The annual report shows work done and additional channel work indicated.

Second, Deer Creek. No detailed inspection was done on Deer Creek in 1961.

Third, South Fork of the Milk River. An inspection was again made in October 1961 by the United States and Federal and Provincial Government engineers. No new works were observed and, in spite of the dry condition in the eastern part of Alberta, shortage of water in this area was felt for about the same period as in 1960. The stream was again flowing at the time of inspection and the river pools were full. It is believed that this inspection has a beneficial effect as a preventative measure against extensive diversions. A report was made for 1961.

Vermilion Reservoir

No problems were experienced in 1961 in the operation of this reservoir due mainly to low runoff in the area. The water was released from the reservoir beginning in the first part of

October. This was considerable help to farmers downstream from the dam who were short of stock water. However, it must again be emphasized that, if this reservoir is to be a satisfactory recreation lake, it requires that a fixed crest spillway, of a large enough capacity, be constructed in order to pass both spring and summer surges without effecting the lake and also have no artificial effect on the hay meadows downstream.

Industrial Use of Water

This is becoming a very important section of our water use and the lack of water can be a very definite deterrent on industrial growth in any area.

Calgary and the Bow River above the irrigation projects have been markedly helped by power developments on the headwaters of the Bow. This situation became more apparent in the Edmonton area with the advancement of industrial development. It was to aid this development as well as to alleviate pollution that the Brazeau Project was started. The first beneficial results of this development have been felt this year. Another section of industrial growth is the use and creation of storage for power development. One very distinct advantage of this type of development is that the use is almost non-consumptive, although fairly large ponds or high flows are required.

Major users and diversions for power development are:

Canadian Utilities Ltd.	—Forestburg - Battle River
	—Vermilion - Vermilion River
	Valley View
	Drumheller
Calgary Power Ltd.	—Wabamun
	Lake Wabamun
Edmonton	—North Saskatchewan River
Lethbridge	—Oldman River
Medicine Hat	—South Saskatchewan River
East Kootenay Power	—Hart Lake

Major users and diversions for cooling and industrial uses are:

Consolidated Mining and Smelting	—Calgary
British American Oil Co. Refineries	—Calgary and Edmonton
Imperial Oil Co. Refineries	—Calgary and Edmonton
Texaco Oil Co. Refinery	—Edmonton
Canadian Chemical	—Edmonton
British American Oil Company	—South Pincher Creek
	—Drywood River
Shell Oil Company	—South Pincher Creek
	—Drywood River

On the above developments the Canadian Utilities Ltd., both at Vermilion and Forestburg, have created reservoirs that are used for recreation.

British American Oil Co. and Shell Oil Company have created reservoirs that could help in head water storage. These reservoirs in all cases are required in order that ponds of sufficient size may be maintained for cooling purposes.

IRRIGATION

General

1961 was a big year for irrigation. The drought conditions which extended over southern Alberta resulted in heavy demands on irrigation water. As in 1960, additional areas were irrigated for the first time, particularly in the St. Mary and Milk Rivers Development and the Bow River Development. Late irrigation in the fall of 1960 was helpful in building up some moisture reserves in the soil for the spring of 1961. Although the St. Mary dam reservoir and the Ridge reservoir were virtually exhausted at the end of 1960, sufficient water was stored from winter and spring flows to replenish these reservoirs and no water shortages were experienced as far as these sources of supply were concerned.

As a result of the recent past years of drier than normal conditions, a renewed interest in the extension facilities is becoming evident among those who are without benefit of these facilities and are beginning to realize the assets to be gained from such benefits. Principally, however, this interest seems to be more inclined toward provision for stockwatering purposes rather than complete irrigation. Some irrigated pasture may be desirable or even essential as part of a stock-watering scheme but this would be a limited scale of irrigation as compared with the majority of irrigation districts now in existence.

The Chamber of Commerce and the F.U.A. at Medicine Hat renewed requests during the year for further consideration of the supply of water to the East Block of the Bow River Development. The Minister of Agriculture attended a meeting in Medicine Hat to discuss this matter and as a result of this meeting, investigations are underway with a view to determining the feasibility and cost of a stockwatering and limited irrigation scheme in the area north of, and adjacent to, Redcliff. Some isolated indications have also been apparent that the people in the Sundial-Retlaw areas of the Bow River West Block are again contemplating the desirability of irrigation.

The Taber Irrigation District has again requested the government's consideration of constructing an extension of the District located north-west of the Town of Taber. Studies by the Irrigation Advisory Board have indicated that, on the basis of a cost benefit analysis, the development of this area cannot be justified at this time.

Requests have also been received from residents south of Seven Persons which, in the past, have derived water from the old scheme known as the "Moore Ditch" to improve and enlarge the workings of this project to facilitate more efficient and extended irrigation.

The Federal Department of Agriculture, Soils Survey Branch, are conducting investigations in the Foremost area to determine how much of this land would qualify for inclusion in an irrigation project.

The matter of the Lethbridge-Coaldale rehabilitation is still under consideration and no final decisions have been concluded at this time.

Requests have been received from the Raymond Irrigation District for surveys to be carried out under the direction of the Drainage Committee for purposes of determining the works and costs necessary to construct an effective drainage system for this district.

Because of the warm dry weather in January, water was run in the United Irrigation District laterals from January 7 to 14 to replenish stockwatering ponds and soil moisture. Water was again turned on from April first until the fall, during which time irrigation was continuous.

The Macleod Irrigation District was not in a condition satisfactory for irrigation, and no demand was received for reviving this project until late in November when only two parties showed any interest in resuming operations on this project.

Many problems were brought to the attention of the Water Resources Office with regard to small irrigation and stockwatering schemes, these problems arising out of the lack of runoff and general dry conditions throughout the year. Farmers in the New Dayton area and the Etzikom Coulee area, from Stirling to Pakowki Lake, were very active in studying their stockwatering requirements. Storage of stockwater and promotion of sprinkler irrigation along coulees was very actively promoted by the farmers. Assistance was given to these people in the way of technical advice and help in organizing various interested groups.

Some maintenance work was undertaken on the Mountain View-Aetna main canal which included the re-setting of bottom spreaders and the placing of gravel on five box culverts, raising and strengthening of the canal bank at seven locations in a reach downstream from the Lee Creek syphon. Several staves were replaced at four points on the Lee Creek syphon and eight of the footings on the Reader Coulee syphon were repaired. One pipe turnout which was washed out was replaced, one box culvert was redecked, and repairs were carried out on three timber chutes.

Distribution canal extensions were surveyed and staked for five laterals in the Leavitt Irrigation District and three laterals in the Aetna Irrigation District. All the above construction work was carried out by the District Engineer in the Lethbridge office.

St. Mary and Milk Rivers Development

Due to the hot dry weather during the 1961 season, this has been a good construction year. Only one day of field work was lost because of bad weather between April first and November first. Dry conditions caused many farmers to appreciate the value of irrigation and requests were received to install 15 extensions to present distribution systems. These extensions were constructed, two of which were directly off the main canal in the south Burdett district and will service 350 additional irrigable acres. In the future this area can be served by the Highline System if and when it is developed.

This year 6.1 miles of canal lining was completed using 6 mil polyethylene in ditches varying in width from 2' to 6'. This work was carried out in areas from the Taber Big Bend to the South Medicine Hat District. In view of the fact that water was turned on in the S.M.R.D. on April 24 it is commendable that so much lining was accomplished prior to this date.

During the fall an additional two miles of lateral was prepared for lining next spring and an additional three and one-half miles of laterals are ready for the excavation necessary to prepare these ditches for lining.

Further seepage control was carried out in the form of canal deepening and in this respect 4500 lineal feet of canal was deepened by approximately 3' to 9'. Previously existing wooden structures were replaced with new precast concrete structures built at the Grassy Lake yards.

Approximately 5500 feet of relocation was carried out on three laterals where such relocation was preferable to the use of lining because of improved ground conditions and the shortening of the length of these distribution ditches.

During the year seven tile drain installations were carried out by Water Resources staff and equipment. The depth of these drains range from 6' to 15' and consist of No. 2 grade glazed tile of 6, 8 and 10" diameter with individual lengths of three and one-half to four feet. Total length of such installations for the year amounted to 3.6 miles at an average cost of \$4.43 per lineal foot. Six of the seven tile drain projects outletted in open drains, while the seventh outletted into a pumping unit which conveys the water back into one of the irrigation laterals. A permanent pump is to be placed on this installation in the spring of 1962. This particular drain has discharged an average flow of 100 gallons per minute which is the amount of groundwater accumulated over 2,334 lineal feet of tile drain.

Seven open interceptor drains were completed during the year which included three carry-overs from the previous year. These open drains have an average depth of 8' and a total combined length of 5.4 miles. The work done on these drains included such items as road crossings, drainage inlets and bank leveling. Considerable work of this nature was also undertaken on drains built in previous years and not yet completed in this regard.

Some experimental use of a chemical soil sealant was carried out but the results of these experiments fell short of those hoped for, principally due to the nature of the existing soil. The chemical used is known as SS-13 and apparently requires fairly sandy soil conditions in order to be fully effective.

During the year some 44 precast concrete structures of different sizes and use were installed in canal extensions and drainage ditches as turnout structures, drops, checks and flat-gate headworks. These structures were fabricated at the Water Resources headquarters in Grassy Lake and have been found to be a very effective and economical structure for general use on irrigation works. Other irrigation districts, as well as the

Saskatchewan Government, have indicated a great deal of interest in the success of these structures. It is felt that the simplicity and economy of construction and installation is the long sought after answer to the limited life of more cumbersome wooden structures.

Other miscellaneous works undertaken during the year include the levelling of areas around the Chin Lake Bridge and the removal of gravel piles which will result in safer boating operations on the Chin reservoir. The old gate stems at the Chin dam were removed and a plug was installed in front of the new dam so that gates and conduits could be repaired. A small knoll was removed from the front of the old gate.

Levelling and bank building operations were completed on the north-east Coaldale lateral which supplies water to the Cameron extension. A large culvert was installed under Highway No. 3 on lateral No. 76 which supplies water to Fincastle Lake. Dump boards were installed on several bridges, work which was not completed during initial construction. In addition, about 50 Texas gates were installed throughout the project. In cooperation with the Land Development Service, pumping of water into pondage areas was done for experiment and investigation being carried out on leaching of alkali soils.

Among other miscellaneous work is included the survey and supervision of construction of a dam at Craddock for the Raymond Irrigation District. This dam will serve as an equalizing reservoir for the lower end of the Raymond Project.

Bow River Development

In October a contract was awarded for the construction of 20 miles of sub-drain on the Bow River Development involving some 140,000 cubic yards of excavation. The contractor completed two and three-quarter miles of this work before shutting down for the winter season. Structures and culverts for these drains were constructed and installed by Water Resources crews and equipment. During the year Water Resources crews also built three tail-end ditches, 56 timber and grouted rip-rap structures, 2 check structures, 6 farm turnouts and 45 culvert installations. This work involved the excavation of 5100 feet of ditch, the placing and back filling of 1,090 feet of culvert, and the hand placing of 2,250 cubic yards of rock on a gravel base with concrete topping.

To improve safety conditions throughout the project, guard rails were erected at about 100 road crossings and 100 Texas gates were installed to facilitate accessibility for maintenance staff. Weed burning was carried out in all the ditches not yet primed or used by the irrigation operators, and repair work was undertaken on 36 box culverts in which frost action had caused a lifting of the bottom spreaders.

Thirty-four hundred lineal feet of ditch was lined with polyethylene plastic liner and is the first installation of this nature on the Bow River Development. With the progress of time, more seepage and alkali problems are beginning to appear through-

out the project and it is anticipated that in the coming year more similar lining installations will be undertaken.

In addition to the above, some 730 miles of transit survey was carried out as well as 212 miles of levelling. This work is associated with investigation of future drainage requirements as well as topographic surveys which this year were completed on 31,520 acres of land. 190 quarter sections of topography were also plotted on linen.

DISTRICT OFFICES

Calgary

On December 9, 1961, the Alberta Office Building at Calgary was ravaged by fire and the Water Resources Office was virtually destroyed. This report is therefore written without benefit of access to any records or files. These records have not yet been recovered from the debris but it is doubtful if they will be of any value when they are salvaged. The Calgary Office is now temporarily located in the new Court House Building

Another dry year in the Calgary area has once again indicated the need for conservation of our surface water supplies. Many non-perennial streams, which usually supply water for the small dams and dugouts in the area, did not flow this spring and hence a serious shortage of water occurred. The perennial streams in some areas have been extremely low or ceased flowing which brought complaints from those suffering consequent water shortages. The beaver, who only a few years ago, were being blessed by nearly everyone, are now starting to bear the wrath of those experiencing the shortages on streams inhabited by beavers.

In contrast, the mountain fed rivers and streams were above normal in their peak flows during the spring. Flooding occurred at Canmore on the Bow River and at some locations on the Elbow.

Water supplies in storage were low in the fall and unless a good runoff occurs in the spring, water shortages will be much worse next year than they were in 1961.

Many urban centres in the Calgary districts experienced water problems; rationing became common. Cities, like Calgary, rationed because of insufficient treatment facilities to meet peak demand. Towns like Pincher Creek and Nanton rationed water due to insufficient supplies. Crossfield, Hanna, and Consort were among other towns suffering water problems.

This was a particularly dry year in the Special Areas and water shortages occurred at many locations. The Cessford Irrigation Project had no water and such was the case with many other flood irrigation projects. Early in the year Hanna diverted water into the Town reservoir from Fox Lake and also took over the C.N.R. reservoir to assure additional supply. Consort drilled a well in an attempt to increase the supply of water for the Town.

During the year the program of co-operation with Ducks Unlimited continued. All new Ducks Unlimited projects in the Special Areas were investigated and approved. A policy of

placing a small pipe in all larger dams to allow a continuous flow downstream was inaugurated. This means each project will serve the ranchers downstream with stockwater as well as those around the reservoir shoreline.

In keeping with the provisions of the 1960 amendment to The Water Resources Act, which imparted certain powers to the Minister with regard to the proposed subdivisions adjacent to bodies of water, the Calgary Office actively collaborated with the Calgary District Planning Commission and compiled reports on eight individual possible subdivisions which were before the Commission for consideration. The areas investigated were generally on or near the flood plains of rivers and streams. The need for serious consideration of any subdivision or land settlement on flood plains has been strongly indicated and the Planning Commission can aid materially in preventing such lands from becoming future problems because of property damage and even loss of life due to flooding.

During the year a survey into all the projects on the Lodge Creek and Middle Creek basin was undertaken. The investigation took the form of an inspection and survey of all the licensed and illegal projects in the basin. The results will be used to bring the records up to date. The work on these international streams as a pilot project for further surveys that will be carried out in the future to bring our inventory of water resources projects up to date. The survey took two men four months and covered some 400 square miles.

Surveys were continued into the problem caused by the Highwood River in the High River area. An aerial survey was undertaken to provide the latest information. A report will be completed in the new year dealing with all aspects of the problem from a water resources and flooding point of view.

During 1961 investigations were made of a number of problems concerning erosion caused by various rivers. As lands become more settled and the value increases, the loss of land to rivers by erosion becomes more serious to the individuals affected. The problem is not simple, since to the individual concerned it is serious and may materially affect his way of life, but when considered from a broad viewpoint, the problem is of a minor nature. It is not financially possible to undertake the protection of all areas subject to river erosion. The costs exceed the benefits derived.

In the Drumheller area, however, the Village of Midlandvale was being subject to considerable damage due to erosion and the Department of Highways with the advice of Water Resources did some protection work at that location.

The continued dry weather caused an increase in irrigation on the projects in the Calgary district. This was especially noticeable in the Western Irrigation District where a considerable number of new applicants for irrigation were received and where rejuvenated field ditches could once again be seen wending their way across the landscape.

Repairs to some of the main structures were undertaken by the Western Irrigation District. A new headgate was placed at

the south Chestermere Lake outlet canal during the winter. Plans are underway to repair the north outlet gate as well as the Dalroy flume and other structures.

The new fill constructed jointly by the Federal and Provincial Governments and the Eastern Irrigation District to replace the Antelope Creek syphon was used for the first time in 1961. While considerable erosion occurred at the outlet structure, the works as a whole were a welcome improvement to the district and will provide for the future irrigation of at least 10,000 additional irrigable acres.

Investigations were initiated to assess the condition and need for replacement or maintenance of other major structures on the E.I.D.

In general, the smaller flood irrigation schemes in the province were not able to operate too successfully during the year due to inadequate supplies of water.

Two meetings of the Forestry Research group were held during 1961. The Marmot Creek drainage basin was chosen as the first area in which concentrated research would be carried out. Plans were made for Water Resources to complete a contour survey of the area. Due to early snows this work was postponed until July, 1962. Dry Coulee basin was also chosen for a similar study and some investigational work was carried out in this area.

The Calgary Office continued its liaison with the Federal Water Resources Branch, Department of Northern Affairs and National Resources. Several new stations were installed during the year and repairs to others were carried out. Information for all water studies undertaken by the Calgary Office was supplied by the Federal Office.

Repairs to the north outlet to Mami Lake were completed during the fall. The gate is now in a satisfactory condition to supply water to the North Branch canal.

Investigations were conducted on Pincher Creek with regard to a possible site for a reservoir upstream from the Town of Pincher Creek. This reservoir would provide the Town with water as well as assure the downstream ranchers of an adequate supply of stockwater and irrigation.

Sonic surveys were continued on the ice trap on the Bow River to determine the change in the shape and size of the excavation.

The Water Resources Office at Calgary and the P.F.R.A., of the Federal Department of Agriculture, completed the survey of the first group of projects to be transferred to Provincial Government administration. Those projects on which repairs were completed were approved and accepted. Certain required repairs to the remaining projects will be undertaken by the Federal Government in the near future.

The P.F.R.A. had one of its busiest years since its inception in Alberta. Due to the drought conditions, the offices were

swamped with requests for dams and dugouts. No accurate estimate of the number constructed is available at this time but it would be a very large number.

The P.F.R.A. also completed the construction of a new spillway on the Castor Dam and undertook surveys on a canal location to irrigate lands in the Sunnybrook area from the Coleman reservoir.

The dry year made it necessary to let water down from certain community reservoirs which were constructed by the P.F.R.A. This involved some problems of rights and moral obligations but all these problems were settled amicably with those concerned.

Lethbridge

During the year, 60 inspections involving problems of erosion, flooding, seepage, and water supply were undertaken by the Lethbridge District Office. Thirty-one of these inspections were related to the operation and maintenance work on the main canal in the Leavitt and Aetna Irrigation Districts as well as the survey work which was conducted for the construction of extensions to these districts.

Due to lack of precipitation during the past year, erosion and drainage problems outside irrigation districts were few, but there was a noticeable increase in the number and seriousness of water supply problems. Stockwatering dams and dugouts received a meager supply from snowmelt during the spring. Private irrigation schemes near the Cypress Hills received water on a very small fraction of the usual area because of the very poor runoff. However, the water supply for the irrigation districts in the Lethbridge area was ample and service was limited only by insufficient ditch capacities, and such limitations occurred only in a few instances for short periods of time.

Other activities of the Lethbridge District Engineer have been described in the section of this report dealing with irrigation, particularly that related to the Leavitt and Aetna Irrigation Districts and the Bow River Development.

Report of the Colonization Branch

for the

ST. MARY AND MILK RIVERS DEVELOPMENT THE BOW RIVER DEVELOPMENT

and the

LETHBRIDGE NORTHERN IRRIGATION DISTRICT

1961

- C. J. McANDREWS — Colonization Manager,
St. Mary and Milk Rivers Development and the Bow
River Development
S. Lee, Economist
- P. M. SAUDER — Colonization Manager
Lethbridge Northern Irrigation District

Land Development Service:

- D. G. Harrington, Supervisor
- G. L. Steed, Irrigation Engineer
- S. Noreika, Chief Technician
- N. S. Thomson, District Irrigationist
- V. B. Taylor, District Irrigationist
- R. S. Hamilton, District Irrigationist

Soils and Drainage Investigation Service

- L. D. M. Sadler, Supervisor
- R. H. Schuler, Investigator
- J. L. McCracken, Investigator

INTRODUCTION

Land and water utilization was at peak-use status as drought conditions prevailed in the irrigated areas during the year 1961. The supply of water to farms was in general quite adequate, although the demand on some distributaries was at times greater than canal capacities. Reservoir supplies were precariously diminished on the Lethbridge Northern and Eastern Irrigation Districts. Runoff during the last quarter replenished reservoir supplies to capacity for 1962.

The irrigable lands in all projects were irrigated to the limit of time, labour and operators' resourcefulness. Many of the lands of the newer projects had not been sufficiently well prepared for irrigation. The same condition continued to exist

on much of the land in older projects. The urgent need for irrigating was too sudden and too early in the season for much additional preparation to land to be made for the benefit of the 1961 crop year. Consequently, the irrigating was laborious, inefficient and produced poor returns on the poorly prepared lands.

Hail also contributed to the losses reported from irrigation districts. The areas that were most seriously effected were in the vicinity of the Old Man River from Lethbridge to Medicine Hat.

Successes were also noted and increases in crop production during the past few years were recorded. These reports were received predominantly from farms that have developed their irrigated land and have been using well prepared and efficient methods of irrigation. High hay yields on level land were particularly common. The sugar beet crops were observed to be above average on well prepared land, but considerably below normal on poorly prepared land.

Fall irrigation in 1960 showed marked increases in crop growth over comparable areas that had not been fall irrigated. The practice was very general in the Lethbridge Northern Irrigation District and the Coaldale Section of the St. Mary and Milk Rivers Development. The Eastern Irrigation District reported a fair demand for fall irrigation in 1960, but that less fall irrigating occurred in 1961. The practice of fall irrigation in the Taber to Medicine Hat districts of the St. Mary and Milk Rivers Development and in the the Lomond to Hays districts of the Bow River Development was reported as not frequent nor of significant acreage. The growers of canning crops, however, fall irrigated an estimated 60% more land in 1961 than in 1960.

It was apparent that due to the need for early and frequent irrigations and due to competition for labour by other "on the farm enterprises" except where land was well developed, crops were irrigated on a priority basis in the order of sugar beets (where grown) special crops (where grown), alfalfa hay and grain. Many crops, especially those of lower priority were irrigated later and less frequently than was necessary for good results. On the other hand, the developed farms demonstrated timely and frequent irrigation applications with good production of all crops.

LAND SETTLEMENT OF THE ST. MARY AND MILK RIVERS DEVELOPMENT AND THE BOW RIVER DEVELOPMENT

Most of the suitable parcels of public land on these projects have been allotted. Some land was developed in preparation for allotment in 1962 and applications for some additional land for this purpose were also submitted. The majority of the presently held lands has been scheduled to be transferred to the Department of Lands and Forests under a plan initiated in 1960 by the Land Utilization Board to develop an additional seven irrigated community pastures over a period of about ten years.

Table (I) shows the status of land tenure during 1961.

TABLE I

	S.M.R.D.		B.R.D.	
	Veterans	Non Veterans	Veterans	Non Veterans
Total Land Agreements to end of 1960	77	103	22	58
Land Sale Allotments during 1961	0	0	0	2
Cancellations, Withdrawals and/or Quit Claims	1	4	0	2
	—	—	—	—
Total Agreements as at December 31st, 1961	76	99	22	58
Additional Units Allotted to Established Settlers	1	1	0	0
Tentative Allotments for 1961	0	3	1	3
Tentative Additional Allotments for 1961	7	13	1	16
Parcels of Land Remaining Unsettled		64 (23 C.P.)*		45 (32 C.P.)*
Number of parcels leased during 1961		73		81
Cancellation of Contracts 1951 - 1961		8		3
Withdrawal of Contracts during 1961		1		2
Quit Claims 1951 - 1961		16		2

(*C.P. refers to land reserved for community pasture development)

Arrears	S.M.R.D.		B.R.D.	
	Land	Water Right	Land	Water Right
No. of settlers 1 year in arrears	130	107	44	10
No. of settlers 2 years in arrears	89	43	13	0
No. of settlers 3 years in arrears	54	8	4	0
No. of settlers 4 years in arrears	27	2	1	0
No. of settlers 5 years in arrears	9	0	0	0
No. of settlers 6 years in arrears	2	0	0	0
	—	—	—	—
TOTAL	311	160	62	10
Total Amount of Arrears	\$127,191.29	\$14,220.70	\$24,763.14	\$676.72
Number of parcels paid up and titles transferred or in process of being transferred	35		0	

The progress of the settlers showed no marked change from that reported for 1960. Hardship was still prevalent due to the lack of sufficient capital to establish sound business enterprises, a lag in land productivity and in some cases due to poor management. Land development appeared to be the greatest aid to progress. The demand for financial assistance for land levelling and water control structures increased four-fold over previous years.

Colonization Manager Advisory Committee

The committee met seven (7) times during the year, six (6) to consider regulatory matters and once (1) to consider policy. Land purchase agreements were approved to be extended to twenty-year contracts for eleven (11) settlers. Approvals were granted for the allotment of fifty-six (56) parcels of land in 1962. Recommendations were made to the Government for acceleration of farm development, community pasture development and marketing and merchandising of special crops.

Revenue

Table (II) shows the collections from land sales and water right agreements. The land sale agreements concern only Colonization settlers whereas the Water Rights cover all of the irrigable land in the two projects.

TABLE II
Collections on Land Sale and Water Right Agreements

St. Mary and Milk Rivers Development			
	1959	1960	1961
Land Sales	\$ 30,000.00	\$ 41,000.00	\$ 41,000.00
Water Right	92,000.00	131,000.00	124,000.00
Total Collected	<u>\$122,000.00</u>	<u>\$172,000.00</u>	<u>\$165,000.00</u>
Bow River Development			
	1959	1960	1961
Land Sales	\$ 7,000.00	\$ 11,000.00	\$ 12,000.00
Water Right	1,500.00	7,000.00	8,000.00
Total Collected	<u>\$ 8,500.00</u>	<u>\$ 18,000.00</u>	<u>\$ 20,000.00</u>

Note: (Figures are shown to the nearest thousand of dollars.)

Water Rights

Table (III) shows the status of Water Right Agreements and the arrears of water right payments. Water Right rate enforcement lists have been prepared each year and adjudicated by the court. The Colonization Manager, however, has not taken title to any land as yet. Hardship on the part of those who were in arrears has been evident and as the potential to make payments has also been apparent, it has been possible for the Irrigation Council to remove all names from the lists before registering them at the Land Titles Office.

TABLE III
Water Right Agreements

	St. Mary and Milk Rivers Development	Bow River Development
Total Agreements	1,856	386
Number Non-Irrigable	178	35
Paid Up Agreements	310	12
Number Deferred	31	1
Number Inactive	94	218
Number of Active Agreements	<u>1,243</u>	<u>120</u>

**Arrears of Water Right Payments
St. Mary and Milk Rivers Development**

*No. of Farmers In Arrears	Year	Amount
1 year	1961	\$60,176.54
2 years	1960	24,991.08
3 years	1959	1,946.36
4 years	1958	237.77
5 years	1957	93.00
996		\$87,444.75

Bow River Development

*No. of Farmers In Arrears	Year	Amount
1 year	1961	\$ 5,252.19
2 years	1960	2,834.00
121		\$ 8,086.19

(*Farmers include all land owners and settlers in the St. Mary and Milk Rivers and Bow River Developments who are in arrears.)

The report of the Provincial Auditor for the year ended November 30th, 1961, contained statements of advances made on behalf of the St. Mary and Milk Rivers Development and Bow River Development and the assets and liabilities of the St. Mary and Milk Rivers Development and Bow River Development Colonization Manager.

Drainage Committee

This was a departmental committee representing the management, construction and colonization of the St. Mary and Milk Rivers Development and the Bow River Development. Nine (9) meetings were called during 1961 to consider soils investigations, construction designs, damaged land areas and claims and to recommend and direct the negotiation of claims, construction of remedial works and the arrangements for satisfactory operation and maintenance of same. One (1) parcel of damaged land was purchased and twenty-four (24) damage claims were processed. Investigations and construction were considered for approximately fifty (50) locations.

Irrigation Planning Board

As a member of this Board, the Colonization Manager contributed to the study of land feasibility for the irrigation of proposed projects. Two (2) meetings were called and one (1) project tour of inspections was taken.

LAND DEVELOPMENT SERVICE

The total number of acres levelled and developed for an efficient method of irrigation in all districts served by the Land Development Service increased by one thousand (1,000) acres in 1961 to a new high of six thousand, eight hundred and eighty (6,880) acres. There was a much greater carry-over of land to be developed in 1962 than ever before. A total of two hundred (200) farmers applied for Land Development Services in 1961

and there were one hundred and fourteen (114) applications on hand at the year's end for levelling in 1962, comprising a total of four thousand and seven hundred (4,700) acres.

All districts reported a keener interest in land development by farmers with the majority of them developing as their resources permitted. Colonization settlers took full advantage of the land Development Service by developing their land to the extent of the assistance policy.

Farmers living outside of established irrigation districts also made enquiries as to the best use of available water supplied in order to stabilize livestock operations. In many cases, the P.F.R.A. gave assistance in building dug-outs and dams but until this past dry year, irrigated pasture or hay was not considered. These people were served as time and staff permitted but the service was quite limited.

Topography Classification

A total of one hundred and thirty-eight (138) parcels were classified as to suitability of topography for irrigation. Seventy-five (75) parcels were requested by the Bow River Development Manager. A number of parcels were classified at the request of the St. Mary and Milk Rivers Development Manager and others as the result of requests by farmers to pump from reservoirs and main canals in order to irrigate high land. The ten-year policy that covers lands classified as non-irrigable on the St. Mary and Milk Rivers Development appeared to greatly facilitate the upholding of land classification standards and at the same time provide benefit to farmers who are prepared to develop lands that have high development costs.

Maps were prepared for four hundred and sixteen (416) quarter sections covering a total irrigable acreage of thirty-eight thousand, seven hundred and thirty-two (38,732) acres. The majority of these were prepared as a result of the re-classification of the Taber Irrigation District and were turned over to the Taber Irrigation Board for approval and signing.

Irrigation Gauge

This service was continued in 1961 and a demonstration was carried out in co-operation with the Sugar Beet Growers Association, the Canadian Sugar Factories Limited and the District Agriculturist. Eight farmers seeded sixteen (16) rows of beets which were irrigated according to the following regimes on each of four (4) rows of the sixteen (16):

1. Time and amount of the irrigation application as indicated by the Irrigation Gauge
2. Four (4) rows received one (1) irrigation.
3. Four (4) rows received the same number of irrigations as the district average.
4. Four (4) rows received the same irrigation at the same time as the farmer irrigated the remainder of the field.

Preliminary results of the study indicated that the rows irrigated according to the Irrigation Gauge yielded approximately five (5) tons per acre over the district average.

In 1961 perennials and row crops required five (5) irrigations as compared to four (4) irrigations in 1960. Several field checks were made to see how close farmers followed the Irrigation Gauge and what benefits were received. A completely developed hay field near Duchess yielded 5.6 tons of alfalfa per acre. The field contained sixty-three (63) acres in border dykes and was irrigated in three (3) days per irrigation. Each irrigation was within a day or two of the time of irrigation as indicated on the Irrigation Gauge. Observations and trials made during the past season brought about the following recommendations:

1. That utilization of the information as to timing of irrigations as presented on the Irrigation Gauge pays off in higher yields of irrigated crops.
2. Fall irrigation gives better germination and higher yields and, therefore, is a desirable practice.

Conclusion:

The Land Development Service has made steady improvement since its inception, but in 1961 the farming public actively took note of the value of this very basic service to irrigation farmers. This was demonstrated by the large attendance of farmers at irrigation demonstrations. One demonstration at Duchess attracted upwards of three hundred (300) people, another at Lethbridge attracted one hundred and twenty-five (125) people. Land Development Service was the alternative to farmers who desired lower labour costs, higher yields and quality products.

THE LAND LEVELLING TRUST ACCOUNT

The total revenue of the Land Levelling Trust Account in 1961 was \$82,678.49 and total expenses were \$60,098.17 which left a surplus not including depreciation on equipment of \$22,580.32. The surplus for 1961 was approximately \$7,000.00 higher than in 1960. The surplus was not greatly increased due to the repairs and lost time to some of the equipment which resulted in these units being listed for sale. Other operations proved to be very dependable and earth moving costs were reduced by 3½c to 5c per cubic yard with the equipment used. The past two years' experience with improved equipment prompted a recommendation to replace the older equipment with the more efficient units.

The Land Levelling Trust Account equipment levelled approximately one thousand (1,000) acres in 1961, of which two hundred (200) acres were for the Land Utilization Branch and seven hundred (700) acres for the Colonization Manager. The remaining acreage was done at the end of the season for private farmers.

STATISTICAL REPORT — 1961**IRRIGATED LAND DEVELOPMENT SERVICE****LAND DEVELOPMENT**

These services were provided, upon the request of the farmer, to facilitate more efficient methods of irrigation and greater net returns per acre. Land classification data was supplied to administrative authorities and farmers so that more accurate land development and conservation decisions could be made.

I—LAND LEVELLING SERVICES:-

Many improvements were required in the methods of handling water and its application. The following assistance was provided to farmers in an attempt to accomplish this improvement.

(A) **Farm Visits:-** 673

(B) Land Levelling:-

The services provided for land levelling included surveying, designing and survey checking of the jobs in operation and the providing of equipment to do a part of the total number of land levelling jobs in the development areas.

(1) Total acreage gridded:-	14,345
(2) Number of completed designs:-	312
(3) Number of parcels land levelled:-	238
(4) Total acreage land levelled:-	6,880
(5) Average cost per acre improved:-	\$52.26
(6) Number of water control structures (spills, checks, diversion boxes and drop structures):-	270
(7) Total accumulative number of jobs since 1950 by Government Machines and Private Operators' Machines (not including misc.):-	1,090
Total accumulative area of acres improved since 1950:-	51,843
(a) Government equipment:-	16,910
(b) Private equipment:-	34,933
Land Levelling Trust Account equipment:-	
(a) Number of parcels land levelled:-	50
(b) Acreage land levelled:-	1,000
(c) Average cost per acre:-	\$50.00
(d) Number of miscellaneous jobs which include dugouts, farmstead, trimming, grading, and etc., wherein, an area is not improved for farming purposes:-	10
(e) Total revenue from all jobs (approx):-	82,678.49
(f) Total expenses (approx):-	60,098.17
Private Equipment:-	
(a) Acreage land levelled:-	5,880
(b) Average cost per acre:-	\$52.00

II—TOPOGRAPHY CLASSIFICATION:-

Our services in providing land classification includes investigations of parcels of land by the methods outlined in the Land Development Classification Procedures.

(1) Number of quarter sections classified:-	146
(2) Total estimated irrigable acreage classified:-	2,700

III—IRRIGATION ACREAGE CLASSIFICATION:-

Our service provides an approved land classification plan showing: Total irrigable and non-irrigable acreage, soil types, topography location of canals, laterals, and farm head ditches and other mappable information. These plans were submitted to: Managers of irrigation projects, farmer, District Agriculturist, and the Veterans Land Act.

(1) Number of classification surveys (ditching, mapping, topographical surveys):-	22
(2) Number of tracings completed (quarter sections):-	416
(3) Total irrigable acreage as per tracings:-	38,732
(4) Total number of maps, plans, reports, etc., issued to administrative agencies and farmers as a result of our services:-	5,368

IV—INSPECTIONS:-

The detail inspections made by the professional staff, resulted from day to day work routines and requests for consultation on Colonization, farm irrigation systems, pump irrigation systems, surface drainage, farm planning, survey procedures, drafting and equipment.

(1) Number of field inspections:-	1,180
(2) Number of office inspections:-	612

V—MISCELLANEOUS SURVEYS:-

(Please specify a number of the types of surveys made such as head ditches, field ditches, drain courses, seepage areas, chaining boundaries, dugouts, border dykes, water control structures, etc.)

(1) Total number of surveys:-	352
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VI—REPORTS:-

(1) Number of all major reports of all kinds regarding all the various services performed:-	49
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VII—MEETINGS, FIELD DAYS, DEMONSTRATIONS, SHORT COURSES:-

94

VIII—MISCELLANEOUS:-**(A) Administrative:**

(1) Number of office interviews:-	1,323
(2) Number of telephone calls (long distance calls only):-	1,061
(3) Number of letters and memos written:-	767
(4) Number of newspaper, radio releases written:-	47
(5) TV Programs:-	4
(6) Number of bulletins and newsletters issued:-	186

(B) Technical:

(1) Number of miscellaneous drafting:- (general plans, drainage investigation plans and profiles, water control structure plans, posters related to irrigation, irrigation evaluation graphs and profiles, miscellaneous sketches and plans as requested by agencies within the Colonization Branch).	406
(2) Number of physical soil tests (infiltration and bulk density):-	217
(3) Number of evaluation tests of irrigation systems:-	9
(4) Number of soil moisture tests:-	657

SOILS AND DRAINAGE INVESTIGATION SERVICE

The past year was the first year of operation as a service within the Colonization Branch. The main purpose of the re-organization was to provide a continuity and integration of the main phases of soils work required on irrigation lands with efficient use of equipment and staff.

Soils Laboratory

New laboratory facilities were acquired which increased productivity and widened the scope of analysis. Required equipment was not made available for specialized analysis for diverse interests.

Land Classification

Agronomic and engineering investigations for internal drainage and soils investigation for land classification were carried out on five (5) irrigation tracts. It was evident from this work that modification and improvement of our soils classification standards will continue to be important.

Drainage Investigations

In the overall programming of investigations, the policy of keeping well ahead of drainage construction and canal lining installations was successful.

To more adequately provide for follow up field analysis of drainage construction, measuring weirs were installed on interception drains. Open and tile drain flow were recorded periodically and correlated with ground water fluctuations.

An automatic ground water recorder was installed in co-operation with the Alberta Research Council. This installation contributed to a more complete record of tile flow, seepage effect, irrigation application and ground water fluctuation. The success of tile drainage installed in the St. Mary and Milk Rivers Development was particularly evident. The advantages of tile drains from a maintenance standpoint, especially in unstable soils, was evident in a reduction of operation and maintenance costs as compared to open drains.

Enquiries regarding large tracts of seepage prone lands in dry land areas continued to come from farmers and other parties. The plight of the farmers in these areas was serious since individual costs of alleviation of seepage as compared to surface drainage were high. The assumption that such problems cleared up after a dry year have thus far been proven false. Individual farmers were encouraged to carry out their own investigation and construction under professional supervision. Dry land groups were advised on their problems, but investigational facilities were not available to serve them.

STATISTICAL REPORT — 1961

SOIL INVESTIGATION SERVICE

I—SOIL INVESTIGATION FOR LAND CLASSIFICATION:-

(1) Total estimated irrigable acreage classified:-	3,000
(2) Total carryover in estimated irrigable acres:-	10,000

II—DRAINAGE INVESTIGATIONS:-

(1) Number of projects completed:-	28
(2) Carryover to 1962, number of quarter sections:-	240

III—FIELD AND OFFICE WORK RELATED TO SOILS AND DRAINAGE INVESTIGATIONS:-

(1) Number of soil borings by Sterling Drill:-	1,664
(2) Number of soil borings manually and by Giddings Drill:-	950
(3) Number of field analysis for soil permeability:-	1,337
(4) Number of new installations for soil drainage studies:-	207
(a) Number of readings of old and new installations:-	5,228

(5) Man days spent on Engineering Surveys:-	126
(6) Number of plans prepared:-	42
(7) Number of soil and water samples submitted to Laboratory for salinity analysis:-	4,207

IV—SOILS AND DRAINAGE INVESTIGATIONS— LABORATORY:-

(1) Number of soil and water samples analyzed for salinity (Eight (8) tests per sample):-	5,725
(2) Number of soil moisture tests:-	2,679
(3) Number of Laboratory tests for Electrical Reclamation studies:-	7
(4) Number of mechanical analysis:-	42

V—INSPECTIONS:-

(1) Field inspections:-	730
(2) Farm Visits:-	65
(3) Office and Laboratory Inspections:-	200

VI—REPORTS:-

(1) Number of all major reports of Soils Investigation Services performed:-	48
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VII—MEETINGS, FIELD DAYS, DEMONSTRATIONS, SHORT COURSES:-

(1) Number of extension programmes participated in by giving talks or demonstrations:-	2
(a) Attendance:-	200

VIII—MISCELLANEOUS:-

(1) Number of office interviews:-	60
(2) Study of related literature (man days):-	25
(3) Number of telephone calls (long distance only):-	66
(4) Number of letters and memoranda written:-	175
(5) Inventory, purchase of supplies, progress reports, work orders, handling supplies, repairs to equipment (man days):-	131
(6) Number of newspaper, radio releases:-	6

LETHBRIDGE NORTHERN COLONIZATION MANAGER

As there was no additional land available for sale, no additional sale contracts were issued in 1961. The land and water right agreements issued since the Colonization Branch was started totalled one thousand, one hundred and one (1,101). During 1961, payments were completed on the two agreements shown outstanding at the end of 1960, thus one thousand, one hundred and one (1,101) agreements were paid in full as at December 31st, 1961, and the land settlement portion of the Colonization Manager's business had been completed.

Since 1954, financial assistance given by way of loans to water users has been limited to loans for beet labour and hauling. The total amount loaned in 1961 was \$229,095.33, as compared with \$252,460.84 in 1960 and \$249,876.43 in 1959. The Secretary-Treasurer of the Lethbridge Northern Irrigation District looked after the office work in connection with the loans and the District bore the total expense of this service. The money used to make the loans was borrowed from the Treasury Branch in Lethbridge. On December 31st, 1961, there was \$6,089.94 still owing by a few beet growers.

Each year, some of the sugar beet workers have taken other employment inside and outside of the irrigation district and others became tenants and purchasers of land. While there was difficulty in obtaining sufficient workers the forepart of the season, an excess of labour occurred during the summer which could not be absorbed. In 1961, the beet workers on the Lethbridge Northern Irrigation District were made up as follows:

	Acres	%
Japanese	520	4.2
Pre-War Europeans and Miscellaneous	1,218	9.9
Growers Own Families	2,824	23.0
Post War Europeans exclusive of 1961:		
Dutch	1,129	9.2
Others	3,085	25.1
1961 Immigrants		
Indians	3,522	28.6
TOTALS	12,298	100.0

Ten thousand, three hundred and twenty-nine (10,329) acres or eighty-four percent (84%) of the total area in sugar beets was harvested by machinery.

One thousand, six hundred and forty-five (1,645) acres or 12.6% of the total area in sugar beets was thinned by machinery.

The following schedule gives statistics for sugar beet crops on the Lethbridge Northern Irrigation District for the years 1954 to 1961 inclusive:

Year	No. of Growers	Acres Harvested	Tons Harvested	Tons per Acre	Sugar Content	Total price per ton
1954	514	13,184	152,869	11.60	15.7%	\$13.12
1955	511	12,988	146,390	11.27	17.7%	15.29
1956	491	12,545	151,551	12.08	17.2%	18.49
1957	481	12,788	157,798	12.34	14.9%	13.23
1958	487	13,132	195,606	14.89	16.0%	15.32
1959	479	12,029	146,067	12.14	15.8%	15.51
1960	462	12,918	155,976	12.07	16.3%	15.00†
1961	458	12,298	147,666	12.01	15.3%	*

Note: (†Expected to be this sum after the subsidy is paid)

(*Total price will not be known until all sugar is sold)

Sugar beets was, of course, the main specialized irrigation crop on the Lethbridge Northern Irrigation District and has done more to help the water users to become successful farmers than any other crop. Extreme heat and hail, however, contributed to somewhat higher losses than usual. Approximately one thousand (1,000) acres in the Picture Butte-Tennion districts suffered practically one hundred percent (100%) hail damage. Other crops such as potatoes, peas, turnips, carrots, cabbage, beans, parsnips, strawberries, cucumbers, corn, mustard, gladioli, sun-flowers and flax are also grown, but we have no definite reports on these.

Feeding and marketing of livestock has also for some time been an important and profitable branch of farming in the Lethbridge Northern Irrigation District. Individual farmers on the Lethbridge Northern Irrigation District fed about the same number of cattle this year as in recent years.

Report of Agricultural Extension Branch AND 4-H CLUB DIVISION

HEADQUARTERS

S. S. GRAHAM, Director

L. W. Rasmusson, Supervisor of District Agriculturists
C. A. Cheshire, Supervisor of District Agriculturists
Mrs. V. G. Macdonald, Supervisor, Home Economics Division
Miss Shirley Wood, Home Designing Specialist
Mrs. Nancy Zavediuk, Extension Clothing Specialist
Miss Patricia Mascaluk, District Home Economist at Large
R. E. English, Agricultural Statistician
J. L. Reid, Agricultural Engineer
C. R. E. Johnson, Assistant Agricultural Engineer
C. L. Usher, Supervisor, 4-H Clubs
V. T. Janssen, Associate Supervisor, 4-H Clubs
S. Fraser, Assistant Supervisor, 4-H Clubs
Miss Patricia Adamson, Assistant 4-H Girls Clubs

District Offices

Office	Agriculturist	Home Economist
Athabasca	G. L. Godel	
Assistant	R. C. Gordon	
Barrhead	C. C. Robinson	
Berwyn	G. R. McNaughton	
Bonnyville	L. Gareau	
Brooks	I. Lapp	Mrs. N. Gray
Assistant	M. F. Wilde	
Calgary	A. W. Beattie	Mrs. I. Leavitt
Assistant	K. Sveinson	Mrs. M. Cox
Camrose	L. D. Williams	Miss K. Carney
Assistant	E. L. Treffry	
Cardston	D. L. Steed	
Claresholm	J. D. Jantzie	Mrs. B. Anderson
Coronation	W. Dietz	
Drumheller	S. W. Pettem	
Edmonton North	J. M. Fontaine	Mrs. D. Westendorf
Edmonton South	P. Jamieson	Mrs. M. Atkinson
Grande Prairie	M. H. Jaque	Miss S. Myers
Assistant	N. G. Miller	
Hanna	D. R. Macpherson	Mrs. M. Cox
High Prairie	L. Bauer	
High River	C. E. Yauch	
Lac La Biche	F. Strashok	
Lacombe	W. L. McNary	Miss Pat Shore
Assistant	E. Dobko	
Lamont	G. W. Shewchuk	
Leduc	G. R. Gylander	
Lethbridge	R. M. Trimmer	Miss E. Bartman
Assistant	L. Welsh	
Mayerthorpe	H. B. Jeffery	
Medicine Hat	J. L. Anderson	
Assistant	M. A. Cameron	
Olds	H. J. Fulcher	(temporary) Mrs. A. Pal
Assistant	A. F. Belyea	
Ponoka	J. L. Kerns	
Red Deer	R. D. Price	Miss E. Dumont
Assistant	G. B. Parlby	
Rocky Mountain House	G. A. Ross	
Ryley	S. C. Powers	
Sedgewick	A. E. Edwards	
Smoky Lake	W. C. Yule	
Spirit River	F. Graves	
Stettler	E. W. Walker	Mrs. H. Moore

Stony Plain	E. C. Lowe
Strathmore	K. H. Walker
St. Paul	M. Chevette Miss E. Zawadiuk
Taber	A. R. Jones
Assistant	J. G. Calpas
Two Hills	Wm. Dent Mrs. E. Durie
Vegreville	N. A. Chomik Miss J. Dolling
Vermilion	H. M. Douglas
Assistant	D. I. Peters
Wainwright	J. S. Duncan
Westlock	W. A. Ross Mrs. B. McCutcheon
Wetaskiwin	W. C. Proctor Miss D. Evans
Vulcan	C. Roth

PROMOTIONS AND TRANSFERS**Headquarters**

R. Hamilton	From Assistant Agricultural Engineer to Irrigated Land Development, Taber.
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District Agriculturists

E. C. Lowe	From Assistant District Agriculturist at Red Deer to District Agriculturist at Stony Plain.
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APPOINTMENTS**District Agriculturists**

R. C. Gordon	Assistant District Agriculturist, Athabasca
E. L. Treffry	Assistant District Agriculturist, Camrose
G. B. Parlby	Assistant District Agriculturist, Red Deer
J. B. Milne	Assistant District Agriculturist, St. Paul

District Home Economists

Miss P. Shore	District Home Economist, Lacombe
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LEAVE OF ABSENCE**District Home Economist**

Miss A. Schelstraete	Olds
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RESIGNATIONS**Headquarters**

Miss P. Mewha	Associate Supervisor, Girls 4-H Clubs
Mrs. Rhoda Stevenson	Assistant Supervisor, Girls 4-H Clubs

District Agriculturists

R. C. Bocking	Stony Plain
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District Home Economists

Miss J. Saruwatari	Lacombe
Miss N. Hooper	Wainwright

SUMMER ASSISTANTS

Mrs. L. Johnson	(Sewing & Handicraft) Vermilion Sch. of Agriculture
Miss G. Daley	(Sewing) Olds School of Agriculture
Miss J. Sokoluk	(4-H) Olds School of Agriculture
M. Gratz	(4-H) Vermilion School of Agriculture
W. Collins	(4-H) Olds School of Agriculture
R. Forrest	Agricultural Engineer, Grande Prairie

District Agriculturists

G. C. Boulet	Berwyn
O. E. Oxtoby	Smoky Lake
H. Sutherland	Edmonton

District Home Economists

Mrs. Amelia Pal	Olds
Miss Glenna Robins	Wainwright

UNDERGRADUATE SUMMER STAFF**Headquarters**

B. Shaw	4-H Clubs
S. Harbison	4-H Clubs

District Agriculturists

L. W. Barany	Spirit River
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District Home Economists

Miss A. Fraser	Grande Prairie
Miss E. Davies	Edmonton

AGRICULTURAL EXTENSION BRANCH

This Branch assumes much of the responsibility at the farm level for carrying out policies and programs developed by the Department. This was accomplished by close contact and association with farm families throughout the Province. This close association enabled extension workers to serve as lines of communication between farmers, the Department of Agriculture, and research institutions and to provide the kind of service and guidance to best suit the needs of rural residents.

Extension workers not only carry out Departmental policies, but are credited with being one of the most important agencies for interpreting and transmitting the results of Agricultural research and experimental work to farm families. The interpretation of results and the use to which these results are put is assuming greater importance with the present more exacting demands of farm families.

Farm and Home Management was an important area of responsibility assumed by the Extension Service. This included teaching and demonstrating the application of proven results of research and practice to farm families. These families were then in a position to apply business principles and sound husbandry practices to the operation of their farms. The complex nature of farming required farm families to rely on more and more assistance from trained workers. Extension and Industry joined forces to provide an ever increasing amount of technical and professional assistance.

The Extension Service as a working force was provided with the results of research in agriculture by a close liason with our own Departmental Specialists, by the personnel of the Federal Department of Agriculture, the Universities and Industry.

DISTRICT AGRICULTURISTS AND HOME ECONOMISTS

Forty-four District Agriculturist and twenty Home Economist offices were maintained. These have, in the main, served farm and rural people in self-help extension educational programs. Farm people have been encouraged to participate in the development of local extension programs designed to help them solve their own problems.

The solution of agricultural production and homemaking problems have been traditionally stressed. 4-H club work has been an important part of the program. During recent years increased emphasis has been given to farm and home management. Family living and marketing problems received more consideration. The extension service has shown more concern for leadership development and has also been interested in community improvement and resource development. There has been increased evidence that farm problems cannot be solved on a "piece meal" basis.

In order to meet the changing and more exacting requirements of rural people the Department has conducted in-service training courses. Some staff members have taken graduate courses in extension education, farm management, and related subjects. The value of the extra training paid dividends in the improved service given.

FIELD CROPS

Problems dealt with under this topic were mainly of a production nature dealing with grain and forage crops, soil fertility, erosion control, weed control, seed cleaning, pest control, farmstead planning and tree planting. Many of the projects were conducted in co-operation with local Agricultural Service Boards.

A summary of District Agriculturists' activities in this field included:

1. CROP IMPROVEMENT

A. Grain

Farmers participating in special projects	59
Meetings, demonstrations, field days, short courses, tours	93
Attendance	3,661
Registered seed—bushels instrumental in distributing	29,425
Commercial seed—bushels instrumental in distributing	384,959
Persons otherwise assisted	3,404

B. Forage

Farmers participating in special projects	509
Meetings, demonstrations, field days, short courses, tours, etc.	112
Attendance	3,076
Persons otherwise assisted	8,002

C. Seed Processing

Municipal plants assisted	49
Organizations, meetings attended	35
Director's meetings attended	258
Seed Cleaning plants inspected	90
Seed drill survey samples submitted	894
Persons otherwise assisted	1,766

2. SOIL CONSERVATION

Special projects	225
Farmers participating	398
Demonstration fields	302
Seen by	3,329
Pounds of forage seed distributed	66,178
Meetings, short courses, field days, tours, etc.	66
Attendance	3,216
Soil samples forwarded for analysis	2,300
Persons otherwise assisted	2,785

3. WEED CONTROL

Weed specimens identified	1,220
Weed specimens submitted for identification'	347
Demonstrations	282
Seen by	2,963
Pounds of forage seed distributed	65,315
Meetings, short courses, field days, tours, etc.	117
Attendance	4,242
Persons otherwise assisted	4,258

4. CROP PESTS AND DISEASES

Meetings, short courses, demonstrations, field days, etc.	47
Specimens forwarded for identification	447
Persons otherwise assisted	3,232

5. ANIMAL PEST CONTROL

Farmers participating in coyote control	2,364
Coyotes killed	12,284
Estimated value of livestock saved	110,000
Farmers influenced to control warbles, lice, ticks, keds, etc.	4,733
Demonstrations, meetings, short courses, etc.	80
Attendance	2,389
Specimens forwarded for identification	25
Persons otherwise assisted	1,702

6. AGRICULTURAL SERVICE BOARDS

Meetings attended	380
Farms assisted under supervision	71
Farms assisted under reclamation	36
Feature projects, (tours, field days not reported elsewhere)	143
Persons otherwise assisted	2,414

7. HORTICULTURE

Meetings, demonstrations, etc.	96
Attendance	3,935
Farmstead plans assisted	562
Shelterbelt plans assisted	1,491
Trees planted	2,140,400
Demonstration and farm orchards assisted	187
Persons otherwise assisted	4,881

8. BEEKEEPING

Meetings and short courses	3
Attendance	117
Persons otherwise assisted	285

District Agriculturists provided information and advice in livestock placements, herd and flock selections, artificial insemination, registration of animals, brands, dehorning, feed analysis, livestock marketing, bangs vaccination, nutrition, disease control, swine quality improvement and performance testing of cattle. Many enquiries regarding livestock diseases were referred to veterinarians, laboratory services and other specialists.

A summary of these activities included:

1. LIVESTOCK IMPROVEMENT

Special Projects	59
Farmers participating	4,219
Livestock affected	64,074
Demonstrations, meetings, short courses, tours	222
Attendance	10,411
Herds of flocks selected or culled	384
Feed samples forwarded for analysis	628
Farmers assisted with pedigree registration and/or tattooing	1,480
Farmers using Departmental dehorner	1,807
Breeders using Departmental Tattoo machines	334

Livestock placement (male and female):

Horses	194
Cattle	3,971
Sheep	3,012
Swine	1,145
Poultry	302

Persons otherwise assisted	9,099
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2. LIVESTOCK MARKETING

Public sales assisted (excluding Calgary and Edmonton):	61
Persons otherwise assisted	2,157

3. VETERINARY AND LIVESTOCK DISEASE CONTROL

New Brucellosis areas actively promoted	9
Farmers participating in Bangs vaccination	55,080
Specimens submitted on D.A.'s suggestions	613
Enquiries regarding diseases	4,108
Farms receiving recommendations re improved nutrition	1,379
Farms receiving recommendations re improved husbandry mgt.	1,228
Meetings, short courses, etc.	69
Attendance	2,245
Persons otherwise assisted	2,456

POULTRY

Poultry extension work was mainly dealt with by provincial poultry inspectors. However, District Agriculturists attended 11 meetings where poultry was discussed and the attendance totalled 488. 756 other persons were assisted with poultry problems. Many of these included a consideration of building plans, ventilation, cost of production and marketing problems.

Dairying

Various phases of breeding, feeding, care and management of dairy herds and improved methods of handling products were considered. The trend towards increased efficiency of production and utilization of records, labour saving methods and equipment continued.

District Agriculturists' dairy work included:

District Agriculturists' dairy work included:

Special dairy projects for improved management of dairy cattle and handling of dairy products	21
Farmers participating	465
Meetings, etc.	54
Attendance	3,596
Farmers influenced re dairy cattle testing	323
Dairy herds culled or selected	87
Persons otherwise assisted	1,387

4-H Clubs and Junior Activities

While local agricultural 4-H clubs were organized and supervised by District Agriculturists, the work load was eased to some extent by voluntary local leaders and summer 4-H Club Assistants. Continued efforts were made to select and train suitable 4-H Club Leaders.

District Agriculturists were actively engaged in the following:

4-H functions attended by District Agriculturists	1,660
Attendance at above	72,136
4-H Club Farm and Home visits by District Agriculturists	4,054
Talks and demonstrations by D.A.'s at 4-H functions	1,257
Other Junior activities assisted	59
Attendance	6,048
Persons otherwise assisted	5,428

District Agriculturists provided information concerning the Schools of Agriculture to prospective students. They also assisted with several school career talks and discussed other educational possibilities in agriculture with interested students and parents.

Farm Management — District Agriculturists

Work in farm management showed continued progress. An increased number of farm families took advantage of the opportunity to study methods of organizing their available resources of land, labour and capital into an operating farm unit that would yield maximum continuous profits consistent with the welfare of the manager and his family. Results in many districts have been encouraging. Several farm management groups have led the way in rural progress and members have been examples in their districts.

Topics studied and discussed included: farm records and accounting, farm business analysis, budgeting, market and price outlook, farm lease and rental arrangements, farm credit and its use, income tax and estate planning.

Summary of activities by District Agriculturists in this work included:

	1960	1961
Individual Contacts		
Farm visits	1,564	1,748
Office visits	3,755	4,414
Number of families participating	2,300	2,780
Small Groups		
Organized discussion groups	120	132
Families in discussion groups	1,182	1,393
Group meetings	567	519
Attendance	7,798	9,168
Meetings and Short Courses (Mass)		
Number	97	94
Attendance	5,324	5,564

Other Agricultural Events

A variety of activities associated with agriculture and extension education, but not reported elsewhere, were conducted in co-operation with other agencies or organizations such as: Prairie Farm Rehabilitation Act (P.F.R.A.); Prairie Farm Assistance Act (P.F.A.A.); Irrigation Districts, Colonization and Citizenship Agencies; University Extension Department; Farmers Union of Alberta; Farmers Union & Co-operative Development Association (F.U. & C.D.A.); Farm Radio Forum; Boards of Trade and Chambers of Commerce; District Planning Boards; Exhibition Boards; Civil Defence; Farm Safety; Home and School Associations, and other community organizations.

Summary of the above:

Meetings attended	353
Attendance	20,054
Persons otherwise assisted	2,914

Information and Publicity

Most District Agriculturists have written one or more weekly news columns. There has been an increased use of radio and television. Newsletters have been used successfully in some districts.

Summary of mass communication media:

Newspaper releases	2,306
Newspapers using releases	188
Radio releases	615
Radio talks and interviews	134
Television releases	166
Television program appearances	41
Newsletters written	213
Newsletter circulation	29,149

Summary of District Agriculturists' Activities:

	1960	1961
Number of meetings	4,470	4,589
Total Attendance	185,194	190,864
Number of Farm Visits	20,510	23,572
Office Interviews	58,179	66,159
Phone Calls	49,261	55,631
Letters Written	42,372	42,939
Bulletins & circulars distributed	122,422	157,438

WOMEN'S EXTENSION DIVISION

Home Management	No.	Attendance
Lectures and Demonstrations	173	4,752
Home Visits	514	
Home Visits (Farm and Home Program)	156	
Group Meetings (Farm and Home Program)	192	3,963
Persons otherwise assisted	1,227	

Programs in home management have been up-dated in recognition of the social revolution taking place. Families have developed new tastes, new appetites, new habits, and new horizons. A survey to learn what homemakers think about their problems in management of such material and human resources as time, energy, money, knowledge, skills and attitudes revealed changes taking place in family living patterns and the fact that 60% considered "time" their major problem while close to 40% thought it was "money." How to practice sound financial planning on the "credit-way-of-living" was indicated as a basic need. A goal of the Home Economists was to help families recognize that time spent in the organization of work-patterns and in planning the use of family resources paid dividends in conservation of these resources, in human satisfaction and peace of mind.

A six session "lecture-study-discussion" program for young homemakers was introduced with a charge made to meet hall rental, baby sitting and a loose-leaf notebook. More groups applied than could be handled in the two districts where the program was tested. Requests for follow-up programs to meet particular needs of the groups as well as individual requests for assistance from persons formerly unfamiliar with the Extension Service resulted.

Some topics covered under this section were: "Steps to Security", "A Dollar Down, A Dollar A Week", "Workable Work Schedules", "Partial Budgets & Decision Making", "Consumer Be Wise", "Buying Equipment & Floor Covering", "Farm Credit and Estate Planning", "Record Keeping for Homemakers", "Home making for Moderns", "1961 Laundry Equipment & Methods", "Time Savers in Food Preparation".

Food and Nutrition

	No.	Attendance
Demonstrations	51	9,859
Lectures & Study Group Meetings	161	
School Lunch Programs (organized & assisted)	7	
Home Visits	195	
Persons otherwise assisted	2,958	

Additional information was given at meetings and achievement days of 65 4H food and garden clubs on food preparation, preservation and standards.

Information regarding comparative food costs, food faddism, and the altering of homemakers to misleading gimmicks and sales techniques was an important and appreciated service. Homemakers were encouraged to become more aware of how their food dollar was spent in order to buy more nutritional value.

Changes in shopping habits were indicated by the statement of the food industry that, in 1960, 10 to 20% of the average

family food bill went for packaged convenience foods, and it is anticipated that this will go up to 20 to 40% in 1961. For example, potatoes have been made available in 58 different forms ranging from approximately 2c to 29c per serving. Information was given in addition to the above, through newspaper articles, newsletters, study courses, radio releases, films and filmstrips. Other topics dealt with—"Eat to Live", "Emergency Feeding", "Lunch Boxes and Student Nutrition", "Make Your Home Freezer Pay", "Standards and Grades for Fruit, Vegetables and Meat", "Church and Community Dinners", "What You Should Know About Food Poisoning, Food Additives, Sprays and Fall-out Dust". Advice was given local hospitals and homes for senior citizens as to food buying, preparation and special diets. Individual assistance has been given welfare recipients at the request of local welfare workers.

	No.	Attendance
Sewing Clinics (3½ days or more)	86	4,580
Sewing Clinics (1 day only)	23	253
Demonstrations and Lectures	249	5,641
Individuals assisted	1,263	.....
Home visits re: clothing	346	.....

There has been a notable increase in requests for assistance in all areas of the clothing and textile field. With fewer new members on staff, more advanced programs were made available to homemakers.

Sewing Clinics increased by 15%, probably because labour costs of manufactured garments were higher and home sewing provided more individuality and better fit. Where it was not feasible for homemakers to attend four or five day Sewing Clinics, one day clinics were held to demonstrate methods and techniques. Mothers with small children particularly appreciated this opportunity to learn to sew.

The Clothing Specialist attended a two week course to study the Bishop Method of Clothing Construction so that mass production techniques, where applicable, might be incorporated into our clothing program.

Handicrafts

	No.	Attendance
Lectures and demonstrations	146	3,919
Individuals assisted	668	.....

Many requests for demonstrations in this field could not be met by the District Home Economist since their limited time had to be spent to meet demands of more basic fields. In order to encourage the rural homemakers to make the best use of time and materials for production of useful and attractive crafts, good design principles were stressed on all occasions.

District Home Economists judged and gave illustrated lectures on standards of workmanship and choice of crafts at 265 Fairs, Women's Institutes and Farm Women's Union of Alberta Conference.

HOME DESIGNING

	No.	Attendance
Lectures and Demonstrations:		
(a) Housing	34	2,888
(b) Decoration	62	
Homes Planned:		
(a) Complete	47	
(b) Partial	159	
(c) Building & Finishing Materials	207	
Home Remodelled:		
(a) Complete	30	
(b) Partial	126	
(c) Kitchens, Bath & Utility areas	169	
Major Improvements (electrical, water systems, etc.)	43	
Individuals Assisted in Interior Decorating	1,421	
Total Home Visits	905	

Requests for assistance in the home design field continued to increase. Limited staff and out-dated farm home blueprint sources curtailed our ability to service these requests.

Only 30 blueprints (now outdated) were supplied, but 510 requests for plans from prospective builders were received. Some assistance was given these families by drafting floor plans, a referral to other plan sources and/or a discussion of sound planning methods. Building and Remodelling Schools, individual home visits and provision of floor plans, created a greater awareness of good design principles as applied to individual family requirements.

A new decorating project has been created to allow for the study of color co-ordination, furniture and its arrangement. Further projects re: "The Design Approach to Landscaping" and "Create Your Own Home Furnishing Accessories" were prepared and utilized.

The field staff continued to expand their activities in this specialized field.

Other Activities

To assist the Department of Public Welfare, the Scales of Allowances, which were developed last year according to age and sex requirements for food and clothing, were revised. These scales were used by the Municipalities in other types of welfare assistance, as well as providing the District Home Economists with basic information to assist families to estimate and compare their living costs. Assistance has been given the new homes for senior citizens and local hospitals without dietitians in planning menus, ordering of food, equipment and special diets. District Home Economists arranged programs, lectured and demonstrated at 95 meetings and short courses in conjunction with District Agriculturists, Agricultural Service Boards and The Canada Department of Agriculture. Meetings were held and assistance given the Department of Indian Affairs, Rural Health Units, the V.L.A., P.F.R.A., Y.W.C.A., Fair and Exhibition Associations, Home & School, Social Service Clubs, Chambers of Commerce, Council of Social Agencies and Boards of Trade. The supervisor was

active on the Provincial Executive of the Consumers Association of Canada.

Two District Home Economists have worked jointly with the District Agriculturists in establishing Advisory Extension Councils and Home Economics Advisory Committees.

Replies from questionnaires indicated a decided interest and need on the part of homemakers for guidance in Family Relationship, Child Development and Teen Age Problems. Thirty-two meetings attended by 915 persons dealt with these topics and 248 families or individuals sought personal guidance regarding family emotional and behavior problems.

Topics related to etiquette, table setting, community and special occasion meals, public and after dinner speeches, personal development and conduct of meetings were discussed at 55 meetings attended by 1,692 persons. Individual assistance was given 818 persons.

Services of this Branch were outlined at 359 meetings. At 41 meetings, the Schools of Agriculture and Home Economics courses were discussed with a total attendance of 14,514. Specific information in this field was given 1,288 individuals.

INFORMATION AND PUBLICITY

Weekly newspaper articles were prepared by each District Home Economist as well as monthly newsletters for women's groups.

Newspaper articles written	1,261
Number of newspapers using releases	108
Radio releases	64
TV releases	6
Radio Talks and Interviews	51
TV Interviews & Demonstrations	12
Newsletters written	213
Total average circulation	15,125
Publications distributed	78,475

4-H GIRLS CLUBS

District Home Economists organized and supervised the clubs in their districts. They were assisted by specialists and summer staff in carrying out activities such as leaders courses, rallies, camps, judging competitions and efficiency weeks. Details regarding these activities are reported in the Junior Activities section.

Number of Girls 4-H Clubs	166
Number of lectures and demonstrations	750
4-H functions attended	742
Total Attendance	32,767
Home visits re: 4-H and other junior work	398

SUMMARY OF ACTIVITIES

	1960	1961
Demonstrations, lectures, field days and short courses	2,220	2,475
Fairs, Conventions, judges and addressed	285	265
Total Attendance	102,711	107,336
Letters requesting information	21,022	21,179
Home Visits	2,595	2,530
Girls' Clubs	168	166
Office Interviews	5,948	6,013
Phone calls for information	10,017	10,264

AGRICULTURAL ENGINEERING**Seasonal Staff**

- C. W. Kirk, Summer Assistant, Olds School of Agriculture
 R. Hamilton, Summer Assistant, Olds School of Agriculture
 R. S. Forrest, Summer Assistant, Vermilion School of Agriculture
 J. A. H. Palin, Summer Assistant (part-time), Vermilion School of Agriculture
 C. Cloutier, Instructor, Rural Electrification Schools, Electrical Protection Branch, Department of Labour
 J. L. Marr, Instructor, Rural Welding Clinic, (winter 1960-61)
 L. M. Wendelboe, Instructor, Rural Welding Clinic, (winter 1960-61, 1961-62)
 R. V. Archibald, Instructor, Rural Welding Clinic, (winter 1961-62)

There appeared to be a trend throughout the province toward increased efficiency on the farmstead; consequently interest in farm buildings and farmstead mechanization continued to expand in 1961. Forty-two percent (42%) of the farm calls were requests for information on farm buildings and farmstead mechanization, and the number of building tours increased from 3 in 1960 to 10 in 1961. Also thirty-eight percent (38%) of the farm calls were for surveys and information on sewerage and water systems. There was a considerable interest in land reclamation on individual farms, requiring preliminary or detailed surveys for drainage, gully filling and other conservation projects.

The number of schools, demonstrations and field days held during 1961 was approximately the same as 1960. There was, however, a marked increase in the number of farm calls and surveys, made possible by utilizing the services of four summer assistants. This was an increase of two assistants over the previous year. Two engineers worked out of the Edmonton headquarters and in order to utilize the additional summer staff most effectively, assistant engineers were placed at the following offices throughout the province: Lethbridge, Olds, Vermilion and Grande Prairie. This district office arrangement combined with the additional summer staff assisted in meeting more of the requests for agricultural engineering services. A number of farm calls and requests for schools were refused because of pressure of other work. Office calls increased appreciably which curtailed other office work. The demand for agricultural engineering services continued to increase beyond the capacity of the present staff. Agricultural Engineering activities were also carried out by the District Agriculturists. Where agricultural meetings and short courses featured agricultural engineering topics, these were handled by the Extension Engineers, visiting or local authorities, or by the District Agriculturists. For this reason, the Agricultural Engineering events reported by the District Agriculturists will exceed the Agricultural Engineer's report.

The following tables summarize the Agricultural Engineering activities carried out by the Extension Engineers and Instructors for 1961:

SCHOOLS

	No.	Attendance
Farm Building	15	559
Home Building & Remodelling	4	244
Electrification	12	744
Welding Clinic	35	824
Sewerage & Plumbing	12	327

DEMONSTRATIONS AND FIELD DAYS

Water and Sewerage	27	687
Forage	4	122
Machinery	4	176
Dairy	2	86
Building Tours	10	347

GENERAL

Short Courses	3	290
Meetings	24	
Farm Notes	10	
Radio and TV Programs	1	
Plan Production	4	
Bulletins Revised	1	
Farm Calls	535	
Office Calls	258	
Letters	805	
Phone Calls	1,091	
Dist. Agriculturists Office Calls	181	
Surveys	96	

District Agriculturists' Report on Agricultural Engineering Activities

	Farm Calls	Office Calls	Demonstrations		Schools		Short Courses and Meetings	
			No.	Attendance	No.	Attendance	No.	Attendance
Machinery	310	839	12	614	5	162	5	1,719
Field Engineering ...	305	597	14	616	2	170	9	198
Buildings	1,085	2,355	22	940	18	831	25	610
Farmstead Mechanization, Rural Electrification, Water & Sewerage, Feed Handling	1,358	3,105	34	1,057	57	1,452	18	766

STATISTICS

The principal purposes of the Statistics Division are (1) to prepare statistical tables, reviews, forecasts, etc., on agriculture in Alberta as required; (2) to conduct a provincial crop reporting service; and (3) to serve as liaison between the Department of Agriculture and the Dominion Bureau of Statistics.

An annual Dominion-Provincial Conference on Agricultural Statistics helps to develop uniform statistical concepts and procedures among all government agencies sharing responsibility of providing agricultural statistics.

The 1961 conference was held in Ottawa on February 14 - 15. The agenda included papers related to 1961 census publicity, final plans for taking the census, and a sample renumeration or "quality check" to follow. The latter will provide estimates of the completeness of the census by regions. Another paper dealt with provincial economic regions with special reference to agriculture.

A summary of the statistics of agriculture for Alberta, 1959 and 1960, were prepared and distributed. Monthly estimates of farm cash income from the sale of farm products and related data were compiled for publication in "General Summary of Statistics" issued by the Department of Industry and Development.

The crop reporting service was continued. Crop reports were issued at two-week intervals during the growing season—a total

of eleven—and thirteen summaries of conditions were prepared for publication by the Dominion Bureau of Statistics. The service would not be possible without the co-operation of district crop correspondents. Their contribution is hereby acknowledged.

Drought severely effected crop yields in the Foremost, Medicine Hat, Hanna and Coronation regions. However, the situation improved toward the west and north. Excellent crops were produced north of a line through Wainwright and Edmonton.

The quality of all field crops produced were good. For example, an estimated 87 per cent of the wheat crop graded No. 3 northern or better.

Cattle numbers increased an estimated 7 per cent over the previous year. The sheep population remained steady. Hog numbers showed an 11 per cent increase; thus one-half the loss which occurred between 1959 and 1960 was regained. The poultry industry expanded, particularly the production of chicken broilers and turkeys.

Cash income from the sale of farm products in 1961 was the highest since 1953. "Windfall" wheat sales permitted increases in grain delivery quotas toward the end of the year; and a Canadian Wheat Board interim payment on wheat and a final payment on oats, normally received by farmers after January 1, were paid in December.

Farm income from the sale of live stock and products exceeded the 1958 record—\$298 million. Cattle marketings were about 7 per cent up from 1960 at only slightly lower prices. Higher prices received for hogs more than offset reduced sales. Heavier sheep marketings maintained returns despite a drop in prices.

Income from eggs held steady in 1961. The volume of poultry meat marketed increased 25 per cent compared with 1960 but prices were down some 10 to 15 per cent.

Farm cash returns from butterfat for creamery butter, and from milk for fluid sales and cheese-making increased.

4-H DIVISION

On August 1st, the administration and conduct of 4-H and other junior activities was transferred from the Schools of Agriculture Branch to the Extension Branch of the Department. This did not involve any change in the actual program of work, but made it possible to achieve a greater degree of co-ordination with the Extension program.

Provincial 4-H activities conducted by the 4-H staff included: Regional and Provincial 4-H Leadership Courses, the Provincial Junior Seed Fair, the Provincial and Inter-Provincial Thematic Display Competition, the 4-H Section of the Alberta Quick Freeze Locker Association and Alberta Dairymen's Association Conventions, Club Weeks, Provincial Eliminations, the Provincial 4-H Dairy Show, the Provincial Plot Competition, Dairy Record Book Competition and Clothing and Foods project book competitions

and also the Provincial 4-H Public Speaking Competitions. In addition, other major events in which the 4-H staff took a very active part included: the Canada-United States 4-H Exchange Program, National 4-H Club Week, the Alberta-Montana Exchange, University Farm Young People's Week, Camps, Rallies, Tours, Banquets and Achievement days. Staff also participated in district agriculturist and district home economist conferences and made numerous office calls on district agriculturists and district home economists to assist them with their district programs.

A portion of the time of the supervisor was spent on inter-provincial and national aspects of the 4-H program. This included representing the department as a director on the Canadian Council on 4-H Clubs, acting on the executive of this organization, and assuming the duties of chairman of the Exchange Visits Committee and a member of the Agricultural Committee of the Council. He also represented the Department at the Western Canada "B" Class Fairs Conference in Regina.

The Supervisor and Associate Supervisor participated actively on the committees of the "A" Class Fairs and of Livestock Associations and worked closely with a large number of business organizations.

The direct supervision of individual clubs was the responsibility as usual of the district agriculturists and district home economists.

Further substantial assistance in the program was given by members of the livestock, field crops, dairy, and poultry branches and the Schools of Agriculture. In all cases this help was very much appreciated.

Assistance of Organizations

The Alberta Wheat Pool, the United Grain Growers Ltd., and the Line Elevators Farm Service again sponsored jointly the field crops projects. In addition, the Alberta Wheat Pool continued sponsorship of the garden projects. The financial contribution here amounted to \$7,617.00. In addition, the field staff of these organizations assisted with many 4-H Activities.

The T. Eaton Co. of Canada provided awards to the value of \$2,500.00 to all beef, swine, sheep, poultry, clothing, foods and home decoration clubs.

Very substantial assistance through the year was also received from the livestock association, service clubs, Boards of Trade, Agricultural Societies, Banks and others.

Federal Assistance

The contribution of the Canada Department of Agriculture to 4-H in Alberta was primarily a financial one. However, assistance was also given swine, dairy and sheep clubs through Federal Purebred Sire Policies and Beef Clubs through Federal Staff.

Financially the Canada Department contributed \$11,833.00 to the 4-H program during the 1960-61 fiscal year. This assistance

was given through sharing equally with the Province; the Federal-Provincial grant to all clubs, the cost of certain specified supplies, leadership training expenses, provincial elimination costs and some awards.

Field staff of the Federal Department assisted in judging at 4-H achievement days in the scoring of carcasses and in the obtaining of carcass grading information. This assistance was very much appreciated.

Club Membership and Distribution

There was a small increase in club membership during the year. This increase was mainly in the dairy and beef projects. The average club membership again remained the highest in Canada.

4-H Club Distribution in Alberta, 1960-61

Agricultural Projects:

	1960		1961	
	No. of Clubs	Members	No. of Clubs	Members
Beef	165	2,884	178	3,218
Dairy	61	1,036	67	1,173
Swine	10	129	10	123
Sheep	6	97	6	75
Poultry	1	17	1	17
Potato	3	50	3	52
Field Crops	66	966	64	891
TOTAL	312	5,179	329	5,549
Increase (Agricultural Projects)		17 clubs		370 members

Homemaking Projects:

Clothing	90	1,271	94	1,263
Garden	54	660	48	559
Food	20	260	17	207
Home Decoration	4	46	7	60
TOTAL	168	2,237	166	2,089
Decrease (Homemaking Projects)		2 clubs		148 members
Total (All Projects)		495 clubs		7,638 members
Increase (All Projects)		5 clubs		222 members
Average Age				14.79 years

ORGANIZED CLUB ACTIVITIES:

Approximately 80% of all 4-H club work is carried out at home. This includes work on individual projects and assignments. Club members in 1961 took part in organized 4-H activities as follows:

In Agricultural Projects:

Regular Club Meetings	2,669
Tours	346
Leadership Courses	48
Club Rallies	54
Achievement Days	248
Special Meetings	329
Total organized 4-H activities	3,694
Total attendance (4-H members and other persons)	100,208

In Homemaking Projects:

Total organized 4-H activities	2,573
Total attendance	47,574

In All Projects:

Total activities	6,269
Total attendance	147,782

LEADERSHIP TRAINING RECOGNITION

1. Leadership Training

(a) Regional Courses

A total of 19 one-day courses were held at the following points: Brooks, Medicine Hat, Lethbridge, Calgary, Berwyn, Grande Prairie, Mayerthorpe, Vegreville, Vermilion, Bonnyville, Waskatenau, Westlock, Wetaskiwin, Camrose, Lacombe, Drumheller, Stettler, Red Deer and Edmonton. The total attendance was 520 leaders and assistants.

(b) Provincial Courses

There were two Provincial Training Courses held at the Olds School of Agriculture, and each involved a two day period. The summer projects training course in April was attended by 42 leaders and the winter projects course by 110. In each case the material covered was complimentary to that of regional courses. Those attending were guests of the Department of Agriculture and sponsoring organizations.

2. Recognition of Leadership:

Certificates presented on behalf of the Canadian Council on 4-H Clubs in 1961 was as follows: 35 five-year, 12 ten-year and 2 fifteen-year. One leader, Mr. Chester Gamble of Mannville, was honored as he retired after 23 years active leadership work.

4-H Club Weeks:

Two club weeks were held at the Vermilion School of Agriculture and one at Olds. Total attendance at the three weeks was 438 delegates representing an equal number of clubs. The program consisted of a balance of work, recreational and social activities with considerable emphasis being placed on junior leadership.

Official out of province visiting delegations to club weeks included the following: 12 members from British Columbia, a group of 4 leaders and members from Manitoba, two girls from Saskatchewan and two boys, two girls and their chaperones from the State of Montana. These visiting groups contributed substantially to our program and left our own delegates with a broader understanding of neighboring provinces and states.

Scholarships:

1. Wheat Board Surplus Monies Trust Fund Scholarships—

A total of 21 scholarships each, to the value of \$100.00 from the Wheat Board Surplus Monies Trust Fund were awarded at Club Weeks. Names of winners are contained in the Report of the Board of Trustees found elsewhere in this annual report.

2. Other Scholarships—

The following scholarships, the awarding of which was based in part on record in 4-H were awarded during the year.

(a) Canadian National Exhibition Scholarships—value of \$600.00, Miss Linda Stepenoff, Paradise Valley.

(b) Alberta Wheat Pool Scholarship—Each to the value of \$200.00 and to students in first, second and third year Home Economics at the University of Alberta. Winners: Third Year—Ruby Butterwick, Bronfield; Second Year—Jean Holmlund, Wetaskiwin; First Year—Dianne Stretch, Ponoka.

(c) Henry Wise Wood Memorial Scholarships—each to the value of \$135.00 and awarded to 4-H members to attend a School of Agriculture. Winners were: Elgin Tees, Clive; Earl Rasmusson, Gwynne; Sharon Ruby Wright, Cherhill; Daniel Hall, Sangudo; Alfred Elvestad, La Glace; and David Gray, Hines Creek.

(d) Edmonton Rotarian Scholarships—each to the value of \$100.00 and tenable at a School of Agriculture. Winners were: Hilda Sternberg, Glenevis; Melvin Minshau, Bruce.

Provincial Eliminations:

Attendance was limited to 190 delegates with representatives being permitted from all sections of the province.

A special feature of the two-day program was the presence of His Honour, the Lieutenant Governor as guest speaker at the concluding banquet. The results were as follows:

Project	Number of Members Competing	National Club Week Winners
Beef	67	Dennis Hueppelsheuser, Blackfalds Ron Isrealson, Cadogan Odo Melcher, Rockyford Dick Hardy, Pincher Creek
Dairy	27	Bill Kamps, Lacombe Sharon Edstrom, Edberg
Field Crops	18	John Campbell, Mossleigh Arnold Rand, Innisfail
Sheep, Poultry, Swine and Potatoes	12	David Anderson, Camrose
Clothing	24	Donna R. Johannson, Markerville Evelyn Gallinger, Buck Lake
Food & Home Decoration	10	Yvonne Grose, Clive
Garden	17	Gladys Cook, Brightview Ellen Teasdale, Paradise Valley

The delegate named to represent Alberta at the National 4-H Conference in Washington D.C. in the spring of 1962 was Fulton Beck of Duchess.

Alberta-Montana 4-H Exchange

This was the fifteenth year of this exchange. The delegates from Montana who were guests at Club Week at Vermilion were: Karen Dokken; Oneita Blaylock; Marcus Bordsen; Frankie Balkovetz and Mr. and Mrs. Robert Roush.

The delegation selected to attend the Montana State 4-H Congress included: Allan Zwierschke, Holden; Darryl Smith, Bow Island; Connie Mulder, Midnapore; Lorrain Kaiser, Wetaskiwin.

The group was accompanied by Mrs. Rhoda Stevenson and Mr. Jack Kerns, District Agriculturist, Ponoka. The Congress involved about 800 American 4-H'ers and their leaders.

Canada-U.S.A. Exchange Program:

This was the third year of this exchange program whereby the Canadian Council on 4-H Clubs sponsors a delegation of ten from Canada to the National 4-H Conference in Washington D.C. Alberta's representative this year was Miss Jessie Ingledew of Hinton Trail.

National 4-H Club Week:

Another event sponsored by the Canadian Council on 4-H Clubs. The week was held at Toronto and Ottawa at the time of the Royal Winter Fair. A total of 140 delegates from the ten provinces and eight from the U.S.A. participated in this major 4-H event. The Alberta delegation this year was accompanied by Mr. V. T. Janssen.

Royal Winter Fair:

Alberta winnings in 4-H grain and potato classes at the Royal this year included, third to eleventh in spring wheat; first and second in oats; fifth, sixth and seventh in barley; first in flax; and first and second in potatoes.

Camps, Rallies and Tours:

Fair camps were conducted at Vermilion, Vegreville, Camrose and Edmonton. In Calgary a rural youth week was sponsored by the Calgary Exhibition and Stampede Association. Camps were also held at Elkwater, Buffalo Lake and Waterton Park and 4-H delegates were named to the first Junior Farmers' Union of Alberta Camp at Gold Eye Lake. The theme at all camps was "Living and Making a Living." Total attendance was 695.

Banquets and rallies were held in most districts during the year. Many of these took the form of color nights. The average attendance was about 150 persons.

Provincial 4-H Delegate Reunion:

The second annual reunion of those who have been on major 4-H award trips out of province was held at the Banff School of Fine Arts in June, attended by eighty delegates.

Thematic Displays:

Thematic displays and floats were prominent at most fairs and many achievement days. Themes stressed citizenship, good agricultural and homemaking practices.

The Provincial Competition in thematic displays attracted ten entries at Edmonton and ten at Calgary. The two respective winners, the Waskatenau 4-H Field Crops Club and the Bow Val-

ley 4-H Beef Club went on to the inter-provincial competition in Regina where Bow Valley placed first and Waskatenau placed third. The Department representatives on the judging panel at Regina was Mr. Lloyd Rasmusson, Supervisor, District Agriculturists.

Public Speaking:

For the first time the south half of the province was organized to carry on a program of public speaking in the majority of clubs. Assistance in this was given by interested organizations and firms. The program concluded with competitions at club, district, regional and southern Alberta levels. The final competition was sponsored by the Calgary Exhibition and Stampede Association. The winner, Miss Louise Kary of Delia was given an all expense trip to the Provincial 4-H Camp in Saskatchewan.

Public Speaking was also very popular in the north half of the province. The Edmonton Exhibition Association sponsored the final competition here which was won by Bernard Payne, Vegreville.

Junior Judges:

A program involving the use of junior judges was carried on in the beef and dairy club activities. Through this program training in judging was given to several young men who had the potential to develop into senior judges.

University 4-H Alumni:

This group again carried on very actively at the University with membership at an all time high of 55. The program included among other things a study of our present 4-H program.

District 4-H Councils:

Something new during the year was the establishing of several Councils. These were organized along prescribed lines suggested by the Department. Each council consists of leader and member representation from every club in the district. The main purpose of Councils was to co-ordinate, organize and carry out inter-club activities in districts where they are located.

4-H Club News:

Two issues of the bulletin were published by the 4-H staff during the year. Total distribution to 4-H members and supporters of the 4-H program was 9,000 copies per issue.

Press, Radio and Television:

All three media of communication again supported 4-H very actively. A number of radio stations now have regular 4-H programs while both daily and weekly newspapers and farm magazines gave excellent coverage of 4-H activities throughout the year. Television played an increasingly important role in 4-H.

The Department's "Call of the Land" program and "Farm Notes" again co-operated to the fullest extent in giving coverage to 4-H events. This applies also to the Publicity Branch of the Provincial Secretary.

Membership Cards:

A membership card for 4-H members was introduced for the first time. The main purpose of this was to provide identity for members on occasions when such was required.

Publications:

The following publications were written during the year by the 4-H staff and have now been added to other 4-H material available to clubs. First Year Swine Project Books; Treasurer's Books; Swine Record Books. The Canadian Council on 4-H Clubs issued a publication on junior leadership.

Agricultural Projects:

Beef Clubs—These clubs again boasted the highest membership and the greatest increase in membership. The two newly instituted senior projects, the "pens of five" and "beef breeding" again continued to make progress. The three projects work quite satisfactorily in one club. Carcass grading reports were obtained on animals assigned to the major packing plants. Full co-operation of buyers was given in disposing of the 3,400 head offered for sale by the 3,218 members.

Dairy Calf Clubs—There was a steady increase recorded in these projects, six clubs and 137 members. The price of dairy calves supplied by the Livestock Branch through the Dairy Heifer Calf Policy was raised to \$50.00. The increased price brought sufficient calves to fill all orders. A total of 347 calves were supplied by the Department. All others were obtained individually by clubs.

A total of 22 delegates representing all clubs from Red Deer south were guests of the Alberta Dairymen's Association in Calgary. Assistance with this group was given by the 4-H staff. Also attending the convention as special guest was the winner of the Provincial Dairy Record Book Competition, Gordon Stall, Wembley.

The Provincial 4-H Dairy Show held in conjunction with the Red Deer Exhibition was honored by the attendance of His Honour the Lieutenant Governor. The Fair attracted a record 64 entries from widely scattered clubs. Winners were as follows: Championship—Brenda Young, Springbank; Reserve Championship—Wendy Robinson, Erskine; Junior Calf Class—Casey Korver, Rocky Mountain House; Senior Calf Class—Brenda Young, Springbank; Yearling Class—Wendy Robinson, Erskine; and Showmanship—Jim Scott, Red Deer. The assistance of the Alberta Dairymen's Association and the Red Deer Fair Board contributed greatly to the success of this show.

Swine, Sheep and Poultry Clubs: These remain small in number but are doing effective work where they are organized.

Field Crops Clubs—The decline in membership noticeable in Field Crops Projects was all but stemmed in 1961. The most popular project by far was again the Varietal Rod Row Test Plot.

Winners in the Provincial Plot Competition were: Junior Project—Lloyd Ternoway of Smoky Lake and Betty McLaughlin of Mannville; Intermediate Project—Darryl Smith of Bow Island and Beth Waters of Morrin; Senior Projects—Edward Dowhaniuk of Thorhild and Paul Miluch of Rosevear.

The eighteenth Provincial Junior Seed Fair was held in conjunction with the Calgary Chamber of Commerce Seed Fair and Short Course. The Fair attracted 169 entries in the eleven classes offered.

New Projects:

Pilot projects were offered in the following:

(a) **Sugar Beets**—One club was established at Taber and received the enthusiastic support of the Canadian Sugar Factories and the Sugar Beet Growers Association. The club received a visit during the year from a similar club established in Manitoba.

(b) **Horticulture**—Three clubs operated in these projects which were drawn up to provide something for boys in vegetable growing, landscape gardening and the planting of field shelterbelts.

Homemaking Projects:

Garden Clubs—The projects offered involve the production and preservation of food.

Considerable help with garden clubs was given this year by regional 4-H staff in districts where these persons were located. This complimented the regular work of the District Home Economist and the field staff of the Alberta Wheat Pool.

The highest standing club in each district received the Alberta Wheat Pool Award of a book on gardening. These clubs were: Deadwood, Crossfield, Airdrie, Heisler, Nampa, Holborn, Smoky River, Mecca Glen, Markerville, St. Paul, Halkirk, Willingdon, Innisfree, Metiskow, Flatbush and Gwynette.

Delegates from garden clubs to the Alberta Quick-Freeze Locker Association Convention were: Ellen Teasdale of Paradise Valley and Sandra Pierce of Abee. This is an award trip provided by the Association.

Food Clubs—The foods projects while not as much in demand as clothing or garden proved very worthwhile where carried. Actually the topic of food is partially covered in the garden projects so considerable training is being given in this phase of homemaking.

Home Decoration Clubs—There was an increase in the number carrying this project this year.

Clothing Clubs—These continued to be the most popular homemaking projects and this year an increase of four clubs was registered. The change in projects being offered in the second year appeared to be popular with the girls. Two members were selected to represent the clothing projects at National Club Week.

Provincial Record Book Competition—This was the second year of this competition which involves selection of the best record books in the clothing, foods and home decoration projects. Competition had an effect on the quality of work put into these books.

The following were the winners:

Food—First Year—Helen Fanter, Cadogan;

Second year and up—Joan Mulder, Midnapore.

Home Decoration—First year and up—Yvonne Grose, Clive.

Clothing—First year—Linda Beck, Duchess;

Second year and up—Marlene Bertschy, Mossleigh.

PUBLICATIONS AND VISUAL AIDS

Publications

An increase in publications distributed through our headquarters office and most of our District Offices was recorded for 1961. Numerous requests were received for specialized information and detailed plans for farm buildings and structures.

The following figures indicate the number of publications, from all sources, distributed by the Extension Branch at Edmonton:

Agricultural general	191,112
Homemaking	78,475
Individual Building Plans	18,437

Visual Aids

The Extension Branch supplied most of the needs for visual aids for the Department of Agriculture, for both Headquarters and Field Staff. District Agriculturists often used the service of other organizations to show films and to provide projectors. The following items are available:

Movie Projectors	9
Slide Projectors	51
Public Address Systems	5
Special Projectors	2
Films owned	53
Films on loan	93
No. of films shown by District Agriculturists	523
No. of meetings at which films were shown	135
Total audience viewing films	14,895

FARM LABOUR

General

The drought over a considerable portion of the Provinces curtailed the need for farm labour. The adverse effect of the drought on our Agricultural economy had a marked effect on our Industrial economy. Many more workers offered themselves for farm employment and no shortage of the casual type of farm workers was reported from any part of the Province. A generally favorable harvesting season helped make more effective use of the farm labour force. Farmers report a shortage of some types of skilled farm workers such as irrigators and dairy workers.

Federal Provincial Farm Labour Committee

The main activity of this committee was the recruiting, transportation and placement of Indians as sugar beet labourers. Indians registered as Sugar Beet workers at Lethbridge totalled 1,746. Of this total 1,304 received transportation assistance to Lethbridge. Most of the 1,746 workers registered received some form of financial assistance from the committee either by going or return transportation, meals and lodging while awaiting placement or hospital and medical care.

Registered Indian workers from Saskatchewan	864
Non-workers transported (children) Saskatchewan	241
Registered Indian workers from Alberta	440
Non-workers transported (children) Alberta	201
Total workers and children	1,746
Growers using Indian Labour	424
Acreage thinned by Indian Labour 33% or	11,654 acres
Total amount earned by Indian beet workers (app.)	\$400,000.00
Estimated amount earned by Indians for labour other than in sugar beet fields	\$100,000.00

Harvest Labour

Most requirements for haying and harvesting were met from local sources and through the offices of the National Employment Service. There was no organized movement of harvest workers into Alberta and no workers were sent to other Provinces to help with fruit picking or haying.

AGRICULTURAL SOCIETIES

Agricultural Fairs

The major activity of most of the Agricultural Societies was the operation of their own fair. Fairs in the larger centers continued to expand while those in smaller centers had some difficulty maintaining interest and support from exhibitors and the public.

Improvements

A number of the Agricultural Societies have made substantial improvements to their buildings and grounds and some have provided facilities for year round community activities. They were used as 4-H centers, livestock show and sales pavilions and for Agricultural and Community public meetings or short courses.

New Society:

One new Agricultural Society was organized at Taber.

Other Activities:

Societies have participated in the following activities in addition to Agricultural Fairs:

Livestock Shows and Sales	48
Seed Fairs	11
Horticultural Shows	17
Farm & Home Improvement Programs	4
4-H Club Activities	44
Short Courses, Schools, Camps, Garden Competitions, Banquets & Public events	67

The annual meeting of the Alberta Agricultural Societies Association was held in Edmonton in December. Carl Hansen of Wetaskiwin was elected President and Mrs. Doris Kirkwood also of Wetaskiwin as Secretary-Treasurer; both for second terms.

Societies Holding Fairs:**Class "B"**

Camrose	Olds
Lethbridge	Red Deer
Lloydminster	Vegreville
Athabasca	Vermilion
Battle River	Pincher Creek
Benalto	Priddis-Millarville
Darwell	Vauxhall
Donnelly-Falher-Girouxville	Westlock
Goose Creek	Wetaskiwin
Grande Prairie	Wildwood
Medicine Hat	Willingdon

Others that held Fairs (not classified)

Mayerthorpe	Peace River
-------------	-------------

Societies Not Holding Fairs:

Alix	Okotoks
Argyle	Plamondon
Barrhead	Rocky Mountain House
Cardston	Lousana
High Prairie	Lamont
High River	Nanton
Central Alberta	Spirit River
Drumheller	Stettler
Edmonton and District	St. Paul

MASTER FARM FAMILY PROGRAM

Four Master Farm Families received this coveted award. Their names are as follows:

Glen R. Powlesland Family, Del Bonita
 Emil Schielke Family, Carstairs
 John W. Pearson Family, Edberg
 Martin Felstad Family, Dapp.

Nineteen Families were nominated in the five districts and each of these was judged by at least one of the judging committees appointed for this purpose. There are now forty-nine

Families which have been declared under this program since it was introduced in 1949.

NAMES OF HOMES ACT

There has been increased interest in the Registration of the names of homes. A number of these registrations involve urban residents who have purchased rural property.

Number of homes registered in 1961	41
Total Registrations for the Province	410

FARM WATER ASSISTANCE POLICY

This assistance policy, which was introduced in 1944 in the Peace River area of the province, has been replaced by a Federal Policy under P.F.R.A. on July 19, 1961. Except for a few isolated projects where fencing and/or inspection has not been completed; the Policy, as it has operated, can be considered to have served its purpose. In the 18 year history, 2,899 projects have been completed and received assistance. During each of the first five years an average of 320 dugouts received the subsidy, after which the numbers assisted dropped drastically to an average of just under 100 per year. During the period in which this policy was effective payments totalling \$212,871.13 were made to help develop a more adequate water supply in the Peace River District.

This program of assistance with the construction of farm dugouts greatly assisted farmers to stabilize their farm operations. For many families the dugout was the only water supply available within a reasonable distance for household and livestock use. This more adequate water supply made it possible to raise livestock for the first time on many Peace River Farms.

Report Of The Veterinary Services Branch

- E. E. BALLANTYNE, V.S., D.V.M., M.R.S.H., Director
J. G. O'Donoghue, V.S., D.V.M., Assistant Director, Field Division
C. H. Bigland, V.S., D.V.M., D.V.P.H., M. Sc., Assistant Director,
Laboratory Division
*G. S. Wilton, V.S., D.V.M., Veterinary Pathologist
H. N. Vance, V.S., D.V.M., Veterinary Pathologist
*F. E. Graesser, B.S.A., V.S., D.V.M., Veterinary Histopathologist
*H. C. Carlson, V.S., D.V.M., Veterinary Pathologist
*G. R. Whenham, V.S., D.V.M., Veterinary Microbiologist
J. Howell, V.S., D.V.M., Veterinary Pathologist
J. P. Best, V.S., D.V.M., Supervisor, Veterinary Inspection
W. P. Brisbane, V.S., D.V.M., Supervisor, Brucellosis Control
J. F. Bacle, Agrologist (France), Laboratory Scientist
G. E. Henningsen, B. Sc., Laboratory Scientist
C. Davidson, B. Sc., Laboratory Technician

* in charge of a Laboratory section

A. GENERAL

Veterinary medicine was an indispensable and integral part of keeping the Alberta livestock industry on an expanding and financially sound basis. With the province producing approximately 30% of the red meat in Canada but only consuming 7%, the livestock health status was of paramount importance to maintain established marketing outlets, both interprovincially and internationally, and to ensure wholesome safe products for human consumption. Proof of this was noted in 1961 when large numbers of cattle moved out of feed deficient areas to Eastern Canada and the United States without any difficulty. The Alberta Brucellosis Restricted Areas program since 1949, the Federal T.B. and Brucellosis Control Area programs, the Federal meat inspection and laboratory services, the Provincial stockyard inspection, the Provincial Veterinary Services and the increase of local veterinary services by practising veterinarians all played major roles in building up a healthy livestock population and protecting human health. This was no small responsibility with Alberta having an estimated 2,885,000 cattle, 1,585,000 hogs, 554,000 sheep, 10,510,000 poultry and 107,000 horses. The cash income in 1960 from livestock and livestock products was approximately \$282,000,000. Therefore, monies spent on protecting the health of the large industry was a sound investment.

Due to the increasing volume and complexity of work the Branch was reorganized on June 1, establishing Field and Laboratory Service Divisions. Drs. J. G. O'Donoghue and C. H. Bigland were promoted to Assistant Directors in charge of each Division respectively. Dr. H. C. Carlson returned from the University of Alberta and Dr. H. N. Vance enrolled at the University of Colorado; both were taking post graduate work on a masters degree under provisions of the government education leave policy. Mr. J. Wood, laboratory technician was granted regular leave of absence to complete his bachelor's degree.

No epidemics of serious diseases occurred in poultry or animals in 1961 although there was considerable concern about suspected equine encephalomyelitis. This resulted in all race horses at Edmonton, Calgary and Lethbridge being vaccinated, plus many riding and farm horses. There were no cases of rabies which in our opinion is further proof of the value of the extensive control program of 1952-56. With the rabbit population approaching the peak of the 10 year cycle the situation was watched with interest as in 1953, and 1954, the rabies problem areas could be forecast a year in advance based on rabbit population densities.

Regulations requiring licensing and humane slaughter procedures at country slaughter houses were drafted and enacted to become effective January 1, 1962. Other than similar requirements at Federally inspected abattoirs these were the first of a provincial nature in Canada.

Proposed regulations concerning outlets and selling of livestock medicines were drafted with the assistance of representatives of the Federation of Agriculture, Alberta Pharmaceutical Association, the Alberta Veterinary Medical Association and the Alberta College of Physicians and Surgeons.

A feed Industry Conference was sponsored jointly with the Extension Department, University of Alberta and the Canadian Feed Manufacturers Association (Alberta Division). The theme mainly concerned disease information and was the first such conference in Canada.

The Brucellosis Restricted Area program continued to expand with 2,750,000 cattle under supervision; approximately 441,000 calves were vaccinated. The value of this program has meant millions of dollars to the Alberta cattle industry as well as protecting human health. To double check the value of calfhood vaccination in preventing infection under field divisions the Federal Health of Animals Division supplied the following information on completion of testing in the M.D. of Starland No. 47. In 75 infected herds, 92.25% of the vaccinates were negative compared to 86.1% of the non-vaccinates. This area was the first Brucellosis Restricted Area in Canada, established in 1950 and had vaccinated 10 calf crops. This information was requested as statements had appeared in the press that vaccination was only 60%-70% effective in preventing infection and these didn't correlate with our previous Alberta observations which were confirmed by the final test figures. The Federal Health of Animals Division have completed testing in 5 of 18 municipalities under test out of 36 gazetted as Federal Brucellosis Control Areas. The rate of infection was approximately one-third of the national average (1.5%) which further confirms the value of the Alberta Department of Agriculture program since 1949.

Veterinary inspection of livestock at Class D, E and F stockyards increased by 29% to 730,109 head compared to 565,449 in 1960. This service was greatly appreciated by all concerned, as being of great value in preventing the spread of livestock diseases. The value of livestock inspected in 1961 was between \$50,000,000 and \$60,000,000. The animals rejected for disease

or suspected disease conditions were definitely better out of marketing channels.

The Laboratory was extremely busy with 19,155 specimens being examined which was an increase of 35% over 1960. 35,980 serological tests were made, 3165 tissues examined histopathologically, 10,769 specimens examined bacteriologically, 1,045 samples processed for poisons, etc. This severely taxes the present facilities and staff as extensive and increasing detailed work is required by many, including experiments concerning toxic feeds, industrial gases, etc., etc.

The vital statistics data continues to be of great value to the Branch, other governments and research institutions and drug companies.

Several individuals were assisted by advice and plans to build satisfactory slaughter houses. Consultive service was given also concerning antibiotics, insecticides, etc., in feed and associated problems.

Veterinary and agricultural civil defence or emergency planning became another major activity of the Branch.

A major historical event took place in Alberta on June 3, when the Hon. A. Hamilton, Federal Minister of Agriculture, injected tuberculin into a cow owned by Mr. Joe Skirlik of Nampa. This marked the completion of the first general test of all the cattle in Canada in the Federal bovine tuberculosis eradication program.

Appreciation is expressed to the Extension, Livestock, Poultry, Field Crops, Dairy and Fur Farms Branches, practising veterinarians, municipal councils, feed manufacturers, biologists, R.C.M.P., University of Alberta, and many others for assistance in furthering the work involved in disease diagnosis, prevention and control.

Details of the various activities are outlined below with additional technical data to be included in the addenda of the Branch report.

B. FIELD SERVICES

Field Investigations

These comprise the operation of official programs, Brucellosis Control, Veterinary Inspection Services, purebred swine health policies, the investigation of specific disease problems, field study projects and education efforts, including meetings and lectures.

Field Investigations

Cattle	55
Swine	23
Sheep	9
Horses	5
Poultry	9
Fur Animals	13
Wildlife	10
TOTAL	124

Inspections

Livestock Markets	180
Stock Yards	133
Biological Permits	33
Swine R.O.P. Bonus	14
Swine Health Herd	47
Brucellosis	43
TOTAL	450

Meetings

Brucellosis	17
Domestic Animals	34
Poultry	6
Professional	15
Others	13
TOTAL	85

Lectures

University	80
Schools of Agriculture	26
Others	14
TOTAL	120

Lectures are given at the University to agricultural, pharmacy and medical students. Others include R.C.M.P., A.I. technicians, etc.

A total of 177 farm visits were made in the above investigations and inspections.

Veterinary Personnel

(a) Students: The number of Albertans attending Veterinary Colleges is as follows:

	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
O.V.C.	7	13	10	4	9	43
Washington			1	1	1	3
Iowa	1					1
TOTAL	8	13	11	5	10	47

A grant of \$300 a year is paid by the Department to those successfully completing the College examinations.

In addition to the above, 14 Albertans are taking the pre-veterinary general science course offered for the first time at the University of Alberta. If 65% is obtained they will be eligible to enter the 2nd year at the Ontario Veterinary College.

(b) Practicing Veterinarians: The total ran to 134, making a net increase of 16 from 1960. Several more practitioners built clinics to improve their service to the public.

Certified Healthy Herd Program for Swine

This program, enacted in 1960, continued with an additional enrolment of seven herds, making a total of sixteen herds under supervision. The inclusion of several specific pathogen free herds provides opportunity for the study of field performance of such animals. Progress has been most satisfactory. Owner co-operation was evidenced by the management standard being maintained on their individual premises and the submission of specimens from 451 market swine to be checked for the possible presence of transmissible diseases.

T.B. of Poultry and Swine

This educational program has been carried out since 1950. Owners whose hogs showed evidence of T.B. at the packing houses under Federal Health of Animals Veterinary Inspection, were sent a letter explaining preventative and control measures which were essentially better management and husbandry prac-

tices. The incidence at the Edmonton packing houses has decreased from 35% in 1950 to 14% in 1961. Reports received indicate considerable improvement in poultry and swine husbandry as a result of this educational project.

Approximately 535 letters were sent out in 1961.

Federal T.B. Restricted Areas

The Health of Animals Division, Federal Department of Agriculture, completed testing all cattle in the province for the first time. This does not mean the cessation of testing, as retesting was underway in many areas to maintain accreditation, with the aim of protecting human and livestock health as well as facilitating cattle marketing. The incidence of the disease has always been very low in Alberta.

Civil Defence

The word "Food" sums up the responsibility of the Department of Agriculture and the agricultural industry in emergency planning.

Considerable time was spent on agricultural and veterinary civil defence. As Emergency Planning Officer for the Department, the Director, with the help of a small committee of key personnel, developed a survival plan for the Alberta agricultural industry and provided for the continuity of essential departmental activities in the time of emergency. This was the first such plan for Agriculture in Canada. Some field organization remains to be done. Participation in Exercise Tocsin and Tocsin B facilitated the testing of the plan.

Due to his training, knowledge of the total biological life and implications to humans, the toxicology and potential infections involved, the veterinarian is the key individual in making decisions concerning agriculture in civil defence and concerning food for human consumption.

Lectures on the topic were given to two courses at the Canadian Civil Defence College, Arnprior, Ontario, and to several short courses and other meetings, including a group of doctors and nurses.

On the basis that a well-informed agricultural population was of paramount importance to the success of the survival plan, a series of ten articles were published in Farm Notes which were extensively used by the press and radio, not only in Alberta but in many other provinces. Appreciation was expressed for this co-operation. Ten sets of 36 transparencies on agricultural civil defence were prepared for the use of district agriculturists, veterinarians and others to further this educational aspect.

The Director attended an Advisory Emergency Health Services Committee of the National Department of Health and Welfare as the representative of the Canadian Veterinary Medical Association. Advisory or consultation service was also given to biologists, veterinarians, and many others.

Permits

Permits were issued under the Livestock Diseases Act for the following:

(a) Brucellosis—to 132 veterinarians to use *Brucella abortus* strain 19 vaccine.

(b) Poultry Disease Vaccine—to 37 veterinarians, 44 druggists, and to 21 hatcherymen to sell such vaccine, the latter to their supply flocks only. 418,200 doses of infectious bronchitis vaccine, 105,500 Newcastle vaccine and 13,000 doses of combined I.B. and N.D. vaccine were distributed by permit holders making a total of 536,700 doses which is a reduction of 47,400 doses from 1960.

(c) Injectable Veterinary Biologics—to 108 business or individuals to sell, or distribute same which did not include antibiotics, drugs, etc.

All vaccine and biologic permit holders were required to provide proper refrigeration to ensure as good a product as possible being received by the livestock owner.

Educational Courses

In the belief that individuals do a better job in disease prevention when well informed, special courses were instituted in co-operation with other Branches or Departments that might be involved. The first 2-day Feed Industry Conference was held in co-operation with the Industry and the University Department of Extension. The second 5-day A.I. technicians' course and the eleventh 3-day Hatcherymen's course was held with the Livestock and Poultry Branch co-operating and assistance was also given to Extension, Fur Farm Branch and others.

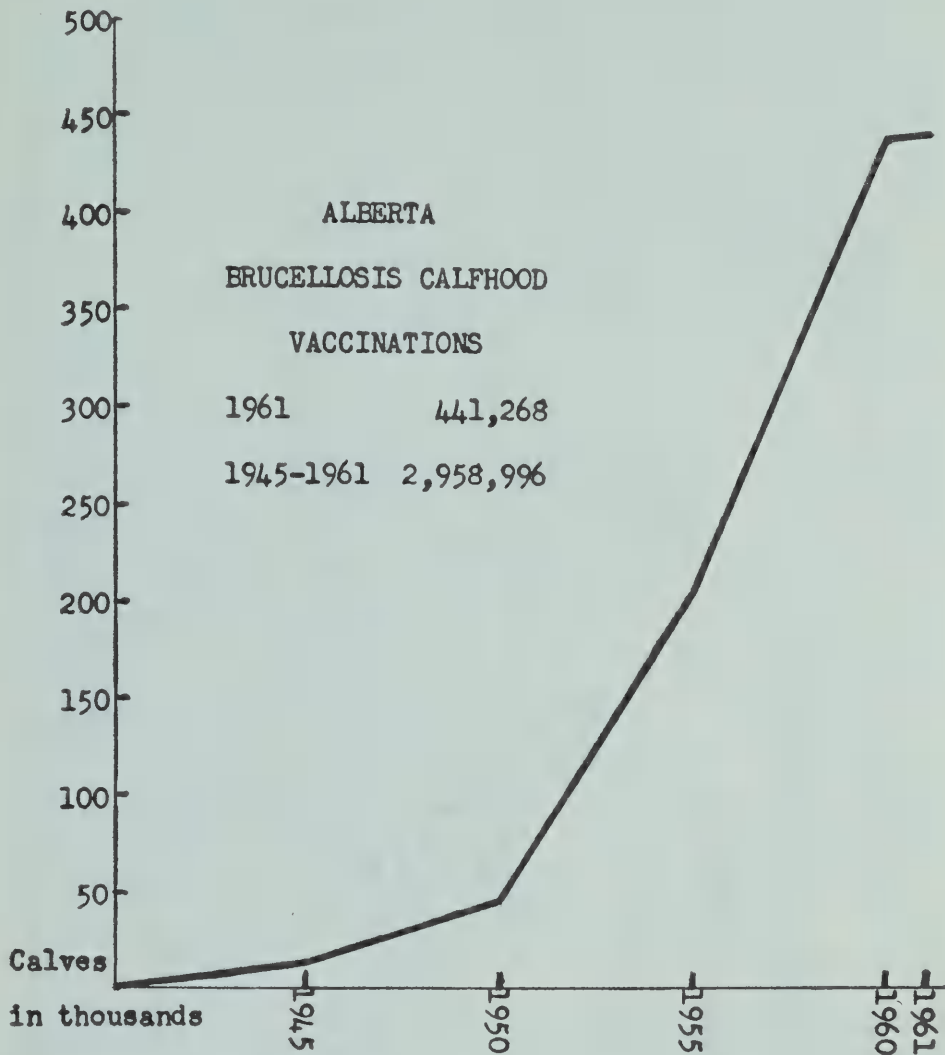
Brucellosis Control

The Province was practically all under the Brucellosis Restricted Area Plan, with the exception of a few districts in the north east and a small area in the south. In order to facilitate the export of cattle to the United States, duplicate vaccination certificates were issued for approximately 20,000 cattle.

Thirty-six areas were gazetted by the Federal Department of Agriculture as Federal Brucellosis Control Areas. The incidence of Brucellosis was .45 per cent of 891,000 cattle tested in twenty-four Federal areas. Five Municipalities; Starland, Lacombe, Mountain View, Wetaskiwin, and Improvement District No. 68, were declared Certified Brucellosis-free areas.

Calfhood Vaccination

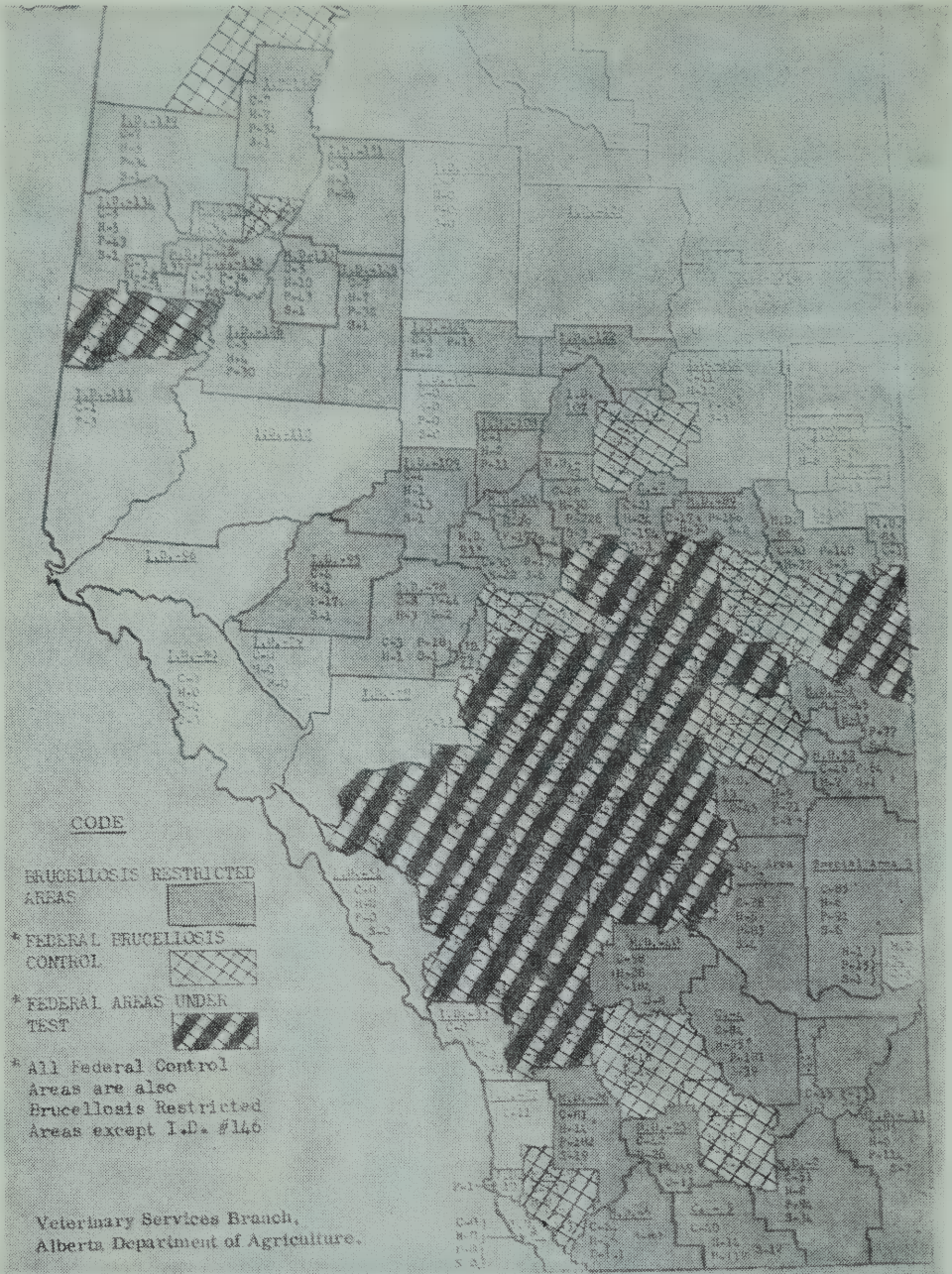
441,268 calves were vaccinated with *Brucella abortus* vaccine which makes a total of 2,958,996 calves vaccinated since the program commenced in 1945. The accompanying graph illustrates the increase in the number of calves vaccinated.



Brucellosis Restricted Areas

In the Brucellosis Restricted Areas, grants were paid to the Municipal Councils to defray the cost of organizing the vaccination campaign, administration of the regulations, and to assist the cattle owners in reducing the fee paid for vaccinations. These responsibilities were handled by the Agricultural Service Boards, and local Brucellosis Committees in the case of Improvement Districts. The provisions of the Brucellosis Program were carried out by 119 Veterinarians and 52 Agricultural Service Board Field Supervisors appointed Inspectors under the Livestock Diseases Act.

The accompanying map shows the Brucellosis Restricted Areas, Federal Brucellosis Control Areas, and Federal Control Areas under test.



Veterinary Inspection Service

Fourteen new Auction Markets were added to the 41 under inspection in 1960—this, along with a greater number of animals sold at the established Stockyards, accounted for an increase of 164,660 over the number of animals inspected in 1960. A total of 16,046 were rejected—11,824 because they were diseased or suspected of being diseased, and 4,222 because they did not meet the requirements of the Brucellosis regulations. The practicing Veterinarians employed as Inspectors spent 2,948 $\frac{3}{4}$ Man Days on Livestock Inspection, and 468 $\frac{3}{4}$ Man Days on Sanitary Inspection of Auction Markets.

The main diseases encountered at the Auction Markets were: In cattle—Mastitis, Cancer-eye, Lump-jaw, Pneumonia and

Enteritis. In Hogs—Rhinitis, Mange and Pneumonia. In Sheep—Lungworm and Pneumonia, and in Horses—Strangles.

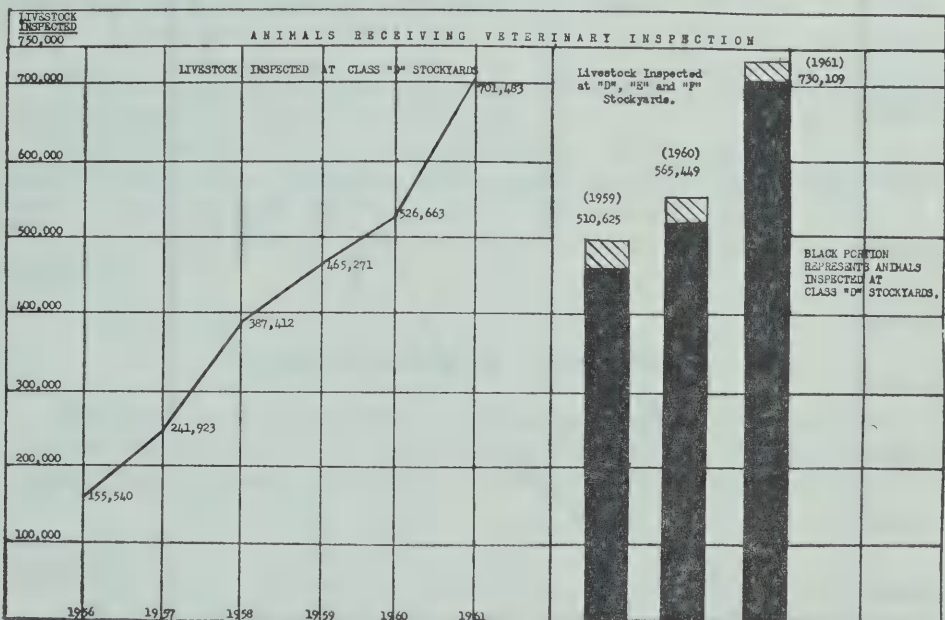
In addition to the Veterinary Inspection provided at the Auction Markets, some supervision was maintained over 43 Class "C" and 283 Class "G" Stockyards.

Summary of Results of Veterinary Inspection

Type of Stockyard	No. of Stockyard	Inspection	% Of 1960	Rejected Diseased	% Rejected	Rejected Sec. 18
**"D"	48	Cattle -	349,081	+31	2,915	.83
		Swine -	303,021	+33	8,547	2.82
		Sheep -	39,540	+56	144	.36
		Horses -	9,841	+18	19	.19
			701,483		11,625	1.65
"E"	3	Cattle -	22,399	-27	175	.78
"F"	4	Cattle -	6,227	-24	24	.39
GRAND TOTALS	55		730,109	+29	11,824	1.61
						4,222

Note: Cattle rejected under Section 18 were marked for slaughter only because the owners declined to have them blood tested for Brucellosis.

* One more did not receive inspection due to low volume of business.



C. LABORATORY SERVICES

Personnel

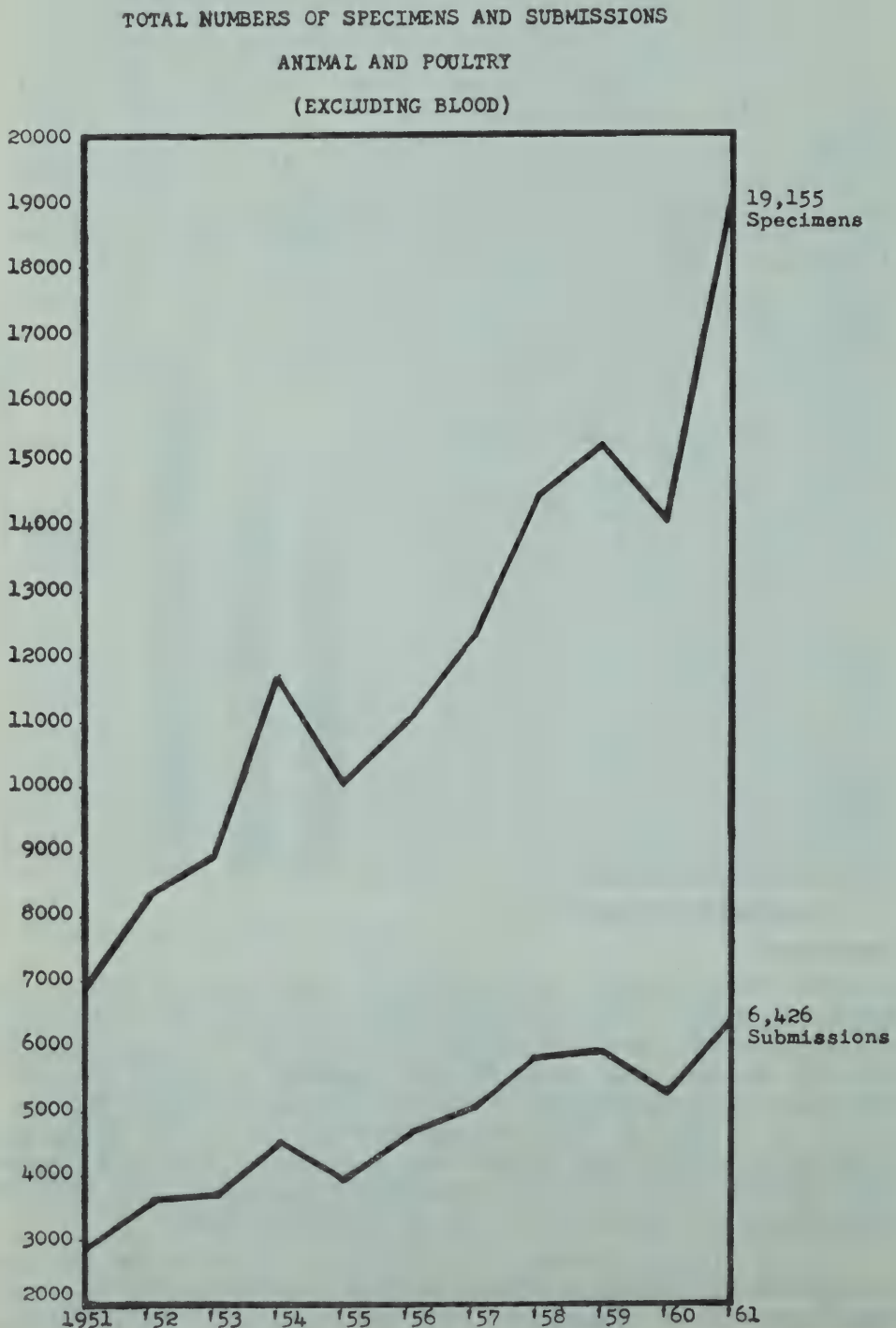
Dr. C. H. Bigland as Assistant Director was in charge of all Laboratory services with the following in charge of the sections named: Poultry Disease Section, Dr. H. C. Carlson; Animal Disease Section, Dr. G. S. Wilton, assisted by Dr. J. Howell; Histopathology Section, Dr. F. E. Graesser; Microbiology Section, Dr. G. R. Whenham. Other personnel include Dr. H. N. Vance absent on educational leave, two laboratory scientists, three laboratory technicians, one laboratory assistant, two animal attendants, two clerk-stenographers, two clerk-typists.

Since August, several changes have been made in the composition of personnel of each section in an attempt to improve efficiency. Four professional staff meetings and two meetings

of all laboratory staff have been held. A program of educational films for the professional staff has been instituted, with the showing of ten such films since September. One educational film on correct telephone usage was shown to all staff members.

Specimens

The following graph shows the rising number of specimens and submissions examined in the past decade, reaching 19,155 specimens in 6,426 consignments for 1961.



Type	No. of Species	Total	No. of Premises
Domestic	13	14,074	4,762
Wildlife	55	440	261
Laboratory	5	150	194
Others	14	4,491	1,470
	<u>87</u>	<u>19,155</u>	<u>6,687</u>

The domestic specimens were: 3,608 chickens, 3,350 turkeys, 2,865 cattle, 2,770 swine, 585 dog, 340 sheep, 194 mink, 138 horse, 102 cat, 79 chinchilla, 31 ducks, 7 nutria, 5 geese.

The wildlife specimens were: 77 ducks, 54 budgerigar, 31 pheasant, 30 canary, 29 moose, 23 monkey, 21 pigeon, 21 swan, 19 sparrow, 15 deer, 9 antelope, 8 bighorn sheep, 7 coyote, 6 grouse, 5 elk, 5 peacock, 5 reindeer, 4 finch, 4 fish, 4 fox, 4 muskrat, 4 sand piper, 3 bob cat, 3 goose, 3 porcupine, 3 prairie chicken, 3 rocky mountain goat, 3 skunk, 3 stork, 3 wax wing, 2 gull, 2 lynx, 2 penguin, 2 rocky mountain sheep, 2 squirrel, 2 wolf, 1 bat, 1 beaver, 1 cockateel, 1 cross bill, 1 flying squirrel, 1 giant condor, 1 gopher, 1 grebe, 1 guinea hen, 1 llama, 1 marten, 1 mouflan sheep, 1 mudhen, 1 plover, 1 toucon, 1 turtle, 1 vole, 1 wallaroo, 1 wolverine.

The laboratory specimens were: 91 rabbits, 28 guinea pigs, 16 hampsters, 14 rats, and 1 mouse.

Others were: 791 swabs, 782 fluff, 667 tampons, 541 milk samples, 292 fecal samples, 290 water samples, 248 eggs, 237 blood samples, 225 feed samples, 199 miscellaneous samples, 73 meat meal, 71 meat samples, 52 urine samples and 23 semen samples.

COMMON DISEASE CONDITIONS

Figures in the following section represent the number of premises on which the conditions were diagnosed, not the number of individual animals affected. (1960 figures given in brackets.)

CATTLE

Clostridium Infections were most frequently diagnosed, with a total of 168 cases. This can be further broken down into blackleg—51, malignant edema—22, mixed clostridium infection—41, while enterotoxemia-like cases were found on 54 premises.

Mastitis was diagnosed in 113 cases (104). The milk samples were submitted by veterinarians mainly from acute outbreaks of the disease.

Pneumonias and Pasteurellosis continued as a major problem in cattle with 179 cases (73) occurring.

Mucosal Disease, although only diagnosed on 9 premises, was a constant source of concern to the cattle industry (13).

Pulmonary Emphysema was found on 12 premises with most cases occurring in the fall (17).

SWINE

Oedema Disease, claimed by many practitioners to be their biggest swine problem, was diagnosed in the laboratory from 64 premises (64).

Swine Erysipelas was very prevalent and found in the laboratory from 37 premises (46).

Mulberry Heart Disease, being diagnosed more frequently the past two years, was found in 19 herds (14).

Salmonellosis in swine appears to be reaching more serious proportions, several farms suffering heavy losses in 1961. The disease was found from 36 premises (24).

Atrophic Rhinitis was a constant source of worry to the swine industry and was diagnosed in 21 cases (12).

Escherechia Coli infections, responsible for scouring and generalized infections, was found on 15 premises (33).

Anemias 43 (28), **Pneumonias** 151 (74), **Gastroenteritis** and other conditions due to faulty nutrition and management were common causes of loss.

SHEEP

Enterotoxemia was found on 11 premises (15).

Pneumonias and Pasteurellosis were diagnosed in 39 cases (20).

Stomach Worms and Tapeworms caused heavy losses to the sheep industry, despite the fact that few were found in sheep autopsied here.

MINK

Distemper, always a constant worry to the fur farmer, especially if he does not vaccinate, was diagnosed on 10 farms (14).

Virus Enteritis occurred on one farm in the same district as the first case diagnosed in Alberta in 1960.

POULTRY

Unidentified Poultry Diseases were a major source of loss in poult and chick flocks. These included **Air Sac Infection** in poults which rose to 250 diagnosed cases (141), and **Respiratory Disease** in baby chicks which decreased to 64 (247).

Chronic Respiratory Disease, prevalent especially among broiler flocks, was diagnosed in 66 cases (48). The condition was confirmed in 3 turkey flocks.

Psittacosis or Ornithosis was not found in turkeys this year (2), but was detected in 2 budgerigar aviaries (7). Two people handling budgerigars in one aviary had blood titres considered positive for the condition.

Paratyphoid, caused by *Salmonella* organisms, was diagnosed from 131 flocks of turkeys (61), 26 flocks of chickens (36), and 1 flock each of ducks, canaries and pigeons.

Fowl Typhoid was diagnosed in 4 chicken flocks and 2 turkey flocks from 6 farms (14).

Pullorum—Again, no pullorum isolations were made from turkey poults. There were 13 isolations from baby chicks (13) and 24 isolations from flocks of adult chickens (10), the majority of which were submitted as pullorum reactors.

Avian Tuberculosis decreased in incidence and was found in 57 chicken flocks and 1 turkey flock (70).

Leukosis, a major killer of poultry, was diagnosed on 86 farms. In 77 cases, chickens were involved; in 9 cases, turkeys were affected. The incidence of leukosis in turkeys appears to be increasing.

Avian Encephalomyelitis was diagnosed in 2 chick flocks.

Newcastle Disease and Fowl Pox—Although many tests were conducted, no isolations were made.

CURRENT DISEASE PROBLEMS

Vital Statistic Reporting

To complement information gathered from laboratory submissions and contacts with livestock owners, a comprehensive system of morbidity and mortality reporting was maintained. Selected veterinary practices co-operate in this project.

Monthly vital statistic returns were processed, covering calls to 13,235 premises representing 30,725 animals requiring veterinary attention.

Disease conditions were classified as being nutritional, parasitic, infectious and miscellaneous. The relative importance of each is shown in the following table:

	Nutritional	Parasitic	Infectious	Miscellaneous
Cattle	10%	2%	30%	58%
Swine	37%	12%	37%	14%
Sheep	2%	20%	34%	15%
Horses	2%	6%	74%	18%

The miscellaneous category in cattle is of real economic importance, but are not usually represented in laboratory submissions. They include calving difficulties and prolapses, indigestion and grain toxemias, bloat, milk fever, acetoneemia, pulmonary emphysema and urinary calculi.

Equine Encephalomyelitis

A minor outbreak of this disease occurred in July, August and September. Because of its public health importance, an effort was made to obtain accurate information on incidence and distribution. Total cases reported were 46, confined generally to Southern Alberta. A few cases occurred throughout the Province, excluding the Peace River area.

TOXICOLOGY

A total of 1,045 (676) laboratory submissions were referred to the Provincial Analyst for toxicological examination. Of these, 494 (439) were animal and poultry specimens from cases of suspected poisoning. The remainder consisted of water and feed samples which were suspected of producing harmful effects in livestock.

The following table illustrates the work done and results obtained from these examinations:

TOXICOLOGICAL EXAMINATIONS

POISON	Bovine	Canine	Equine	Feline	Porcine	Poultry	Total Poison	GRAND TOTAL
Algae	2	.....	.....	.....	.....	.....	2	.....
Alkali (lye)	1	.....	.....	.....	1	.....	2	.....
Arsenic	11	2	.....	.....	.....	.....	13	.....
Carbon monoxide .....	.....	.....	.....	.....	.....	5	5	.....
Cyanide	1	.....	1	.....	.....	.....	2	.....
Dicoumarin (sweet clover)	6	.....	.....	.....	.....	.....	6	.....
Lead	2	.....	.....	.....	.....	.....	2	.....
Mercury	6	1	1	.....	5	1	14	.....
Nitrate	11	.....	.....	.....	.....	.....	11	.....
Petroleum	1	.....	.....	.....	.....	.....	1	.....
Phenol	1	.....	.....	.....	3	.....	4	.....
Plant	7	.....	.....	.....	.....	.....	7	.....
Salt .....	.....	.....	.....	.....	2	1	3	.....
Strychnine .....	.....	35	.....	1	.....	2	38	.....
"1000" .....	.....	4	.....	.....	.....	.....	4	.....
Sub-Total	49	42	2	1	11	9	114	.....
								114

Negative for Poison							380
Feed	Negative	128	Contaminated	57			185
Water	Satisfactory	248	Unsatisfactory	118*			366
GRAND TOTAL							1,045

*Algae 5, Salt 24, Nitrates 36, Soda 34, Total Solids 6, Glauber's Salts 13.

BACTERIOLOGY

Most of the animal and poultry accessions were routinely examined for pathogenic bacteria. The bacteriology section received 4,133 specimens from the animal pathologists, and 6,636 from poultry pathologists. These examinations included bacteriological, serological, microscopic, chemical, animal inoculation, and other procedures. The following chart illustrates the work performed:

Total Specimens Received		10,767	
Bacterial Examinations	8,325		
Fecal Examinations	311		
Blood Counts	257		
Skin Scrapings	58		
Urinalyses	38		
Mastitis Tests	428		
Cuboni Pregnancy Tests	30		
Serological Tests	1,028		
Vaccine and Bacterin Production		31,375	c.c.
Media used: Plates		40,000	
Liquid		320,000	c.c.
Experimental Animals inoculated (Whole Laboratory)		2,249	
Mice	890	Turkeys	15
Rabbits	4	Calves	3
Guinea Pigs	474	Wild Ducks	3
Chickens	815	Lambs	1
Pigs	44		

Special Bacteriology

Several bacteriological projects were conducted which are reported elsewhere. The chart to follow shows the work done on reproductive diseases with findings from fetus examinations and vibrio tampon tests.

Feti	Total	Vibrio	Brucella	Strep	Coryne	Negative
Bovine	235	19	11	13	11	181
Porcine	6			1		5
Ovine	9					9
Equine	4					4
Canine	1					1

A total of 667 Vibrio tampons, representing 99 premises, were examined with positive reactions in samples from 40 premises. Together with fetus examinations, a total of 59 farms were shown to have Vibriosis or a strong suspicion of it.

Other specimens examined included:

Reproductive Organs	16
Intestinal Contents	151
Brucella Project Specimens	124
Fluff Samples	782
Meat Meal	73
Swabs	8
Miscellaneous	82

VIROLOGY

A new virology laboratory was largely constructed and when complete and equipped should provide facilities for efficient handling of many more suspected virus diseases and greatly increase the safety of laboratory staff.

A total of 96 suspected virus tissues were examined with positive diagnoses being made in several cases following animal inoculation, egg inoculation or other techniques. Diseases demonstrated included psittacosis, infectious bronchitis and canary pox.

PARASITES

One part of routine examination of specimens received at the laboratory was a search for parasites. Fecal samples were also submitted to assess the load of parasitic ova or larvae. The

following report lists parasites found in submissions received here and does not necessarily reflect the true livestock parasite load.

Internal Parasites

Large roundworms—swine 28, chickens 12, dogs 3, cat 1, pigeon 1.
 Tapeworms—dog 2, cats 2, sheep 2, wildlife 3, chickens 1.
 Tapeworms cysts—moose 4, rabbit 6.
 Lungworms—sheep 5, cattle 1.
 Caecal worms—chickens 41, turkeys 1.
 Gastro-intestinal worms—sheep 3, antelope 1, big horn sheep 1.
 Coccidiosis—chickens 39, turkeys 12, cattle 8, rabbits 2, mink 1.
 Histomonads—turkeys 37, chicken 1.
 Trichomonads—pigeons 5.
 Also heart worms—toucon; air sac mites—bantam; proventricular worms—giant condor; capillaria—chicken; flukes, filarid worms, acanthocephala—monkey.

External Parasites

Mange—swine 22, coyote 2, rabbits 2.
 Keds—sheep 1.
 Lice—chicken 14, turkey 1, pigeon 2, pheasant 1.
 Mites—chickens 2, scaly leg mite—bantam 1.
 Hippoboscids—cedar wax-wing 1.

Fecal Examinations

Ascarids—dogs 11, swine 2.
 Strongyles—horses 27.
 Tapeworms—sheep 1, dogs 1, rocky mountain goat 1.
 Gastro-intestinal worms—sheep 1, cattle 1, rocky mountain goat 1, antelope 1.
 Oxyuris—horse 1.

SALMONELLA

Infections with organisms of this group are often called "paratyphoid infections" involving many species of birds and animals, including man. The following table indicates the number in each species affected here. Each isolation represents one outbreak of infection in a group of birds or animals.

SALMONELLA INFECTIONS—1961

(1960 figures in brackets)

Turkey	131	(70)
Pig	46	(34)
Chicken	26	(44)
Cattle	7	(7)
Mink	2	(4)
Horse, Fox, Dog, Sheep, Moose, Duck, Turtle, Canary, Pigeon; 1 each	9	
TOTAL	221	(162)

One *Salmonella* was also isolated from a sample of meat meal. Exceptionally severe outbreaks of *Salmonellosis* occurred in two large flocks of turkey poults and two herds of swine.

Although there were over 250 different types of *Salmonella* identified, only about 24 have been isolated in the past 13 years from birds and animals in Alberta. Similar types were isolated also from humans in Alberta. The accurate typing of each *Salmonella* is important scientifically in tracing the infection to its source as a basis for proposed control programs, and to illustrate the circulation of *Salmonella* between animals, birds and humans.

SPECIAL INVESTIGATIONS

Disease problems occasionally arise which cannot be adequately investigated by routine procedures. The personnel and facilities necessary for complete investigation of these problems were not available within this laboratory. However, within the limits of facilities and time available, the following special investigations were conducted. Those subjects indicated with an asterisk are to be published in more detail in the scientific literature.

Salmonella in Meat Scrap

A survey to determine the incidence of *Salmonella* in meat scrap samples, started in 1960, was continued. Seventy-three samples of meat scrap were examined bacteriologically and *Salmonella* species was isolated from one sample.

Hatchery Hygiene

As a continuing project in co-operation with the Poultry Branch, 782 samples of hatchery fluff were received and examined for bacteria. This work was conducted as part of a study on hatchery fumigation and sanitation.

Irradiation of Embryonated Chicken Eggs*

Studies on the susceptibility of embryonated chick eggs to radiation, which were done in 1960, were repeated during the past year.

Blood Coagulation

Blood coagulation studies were conducted on turkey and pigeon blood.

Alberta Random Sample Test

All birds which died during the Alberta Random Sample Test were examined for cause of death.

University Farm

All birds which die at the University Poultry Farm are examined at this laboratory. During the past year a severe infection, which appeared to be of virus origin, was observed in the University Farm and caused a heavy mortality in the adult birds. Animal, bird and embryo inoculation studies were conducted in an effort to identify the virus. This work is continuing.

Pullorum Reactors

All pullorum reactors encountered in field testing were examined for the presence of *Salmonella pullorum* organisms. Serological tests were also conducted on these specimens. One hundred and twenty-nine pullorum reactors were encountered during the year. Sixty-two of these proved to be harboring the *Salmonella pullorum* organism, and sixty-seven were considered to be non-pullorum reactors.

Salmonellosis*

A joint investigation with the Animal Disease Research Institute in Hull, Quebec, was continued. Efforts in this investiga-

tion were directed toward developing serological tests for this disease condition in poultry.

Carbon Monoxide Poisoning*

An extensive investigation of the syndrome of carbon monoxide poisoning in young chicks was commenced. This investigation concerns the problem of carbon monoxide levels in the blood of young chicks, and air carbon monoxide levels that can be tolerated by this species.

Moniliasis*

This is a fungus infection which involves primarily the digestive tract of the avian species. A survey was conducted during the year to determine the incidence of this organism in specimens passing through the diagnostic laboratory. Two thousand and forty-four specimens were examined from 670 submissions, 238 being chickens and 432 turkeys. Twenty-six of the chicken submissions and 126 of the turkey submissions were found to be harboring the fungus.

Botulism in Wild Ducks*

In co-operation with the Game Branch, Department of Lands and Forests, an extensive investigation and survey was conducted of the die-off of ducks on some of the Province's lakes. Toxicity trials and bacteriological examination confirmed that the major factor involved in the wild duck die-off during the past summer resulted from *Clostridium botulinum* infection.

Unidentified Toxic Factor in Feed*

An unidentified factor, toxic to young chicks, was observed in several samples of broiler ration. Young birds on the ration developed gross nervous symptoms which would abate on withdrawal of the affected feed samples. Submission of materials from the affected feedstuffs to several chemical laboratories failed to reveal the toxic factor.

Staphylococcus Mastitis

A controlled field trial with *Staphylococcus* biologics in mastitis control in five dairy herds, comprising 165 cows, was completed. The products proved a useful adjunct in the control of *Staphylococcus mastitis*, but are not a substitute for good management. Studies on the subject are continuing.

Air Pollution*

A major project was started, and studies initiated last year on the effect of hydrogen sulphide and sulphur dioxide in swine, were continued. Results indicated hydrogen sulphide would not represent a practical hazard to domestic livestock. The effect of exposure to low level concentrations of sulphur dioxide are not yet fully understood. Four swine litters were exposed to varying concentrations of the gas within the first four days of life. Controls and exposed animals were sacrificed at varying periods, some of them being carried to market weight. Results are being assessed on pathology and gross weights.

Leptospirosis in Cattle

In conjunction with routine blood testing of samples for brucellosis, a survey of the incidence of leptospirosis was under-

taken. An intensive bacteriological investigation of suspicious cases was pursued. The organism was not identified in any cases examined.

Nitrate Poisoning of Cattle

This condition occurred on a number of farms and several cases were studied.

Myoclonia Congenita

A disease of young pigs was diagnosed in the laboratory for the first time and investigated on the premises affected.

Johne's Disease in a European Red Deer*

The first reported case of Johne's disease affecting European Red Deer was diagnosed at the laboratory. An extensive pathological examination of the case was conducted.

Sheep Parasite Survey

Sheep manure samples from 10 flocks, representing 3,050 sheep of all ages, were gathered during the fall sale at Brooks. On examination all samples showed evidence of threadworm infestation, which, in five flocks, was sufficiently heavy to indicate that treatment would be of value. Evidence of tapeworms was also found in two flocks of which one was heavily infested.

CORRESPONDENCE AND COMMUNICATIONS

To properly utilize Veterinary Branch services, recommendations on diagnosis and information on animal and poultry diseases must be sent to veterinarians, livestock owners or their agents. Such communications included:

Letter	25,755	(17,000)
Telegrams	503	(400)
News Releases	36	(21)
Film Showings	24	(35)
Radio and TV Interviews	14	(6)
Transparencies and Slides	125	(70)
Photographic Prints	200	(100)
*Scientific Papers	12	(6)

* Papers Published in Scientific Journals

1. "The Veterinarian and Thermonuclear Warfare"—E. E. Ballantyne
2. "Avian Vibrionic Hepatitis in Alberta"—G. R. Whenham, H. C. Carlson and A. Aksel.
3. "Irradiation of Embryonated Eggs"—E. E. Ballantyne, G. R. Whenham and S. R. Usiskin.
4. "Hydrogen Sulphide Poisoning in Swine"—J. G. O'Donoghue.
5. "Veterinary Medicine in Alberta"—G. R. Whenham.
6. "Johne's Disease in a European Red Deer"—H. N. Vance.
7. "Pasteurellosis in Penguins"—H. C. Carlson & K. S. Penniford.
8. "Chicken Thrombin, Prothrombin and Fibrinogen"—C. H. Bigland and D. C. Triantas.
9. "Periosteal Fibrosarcoma in a Broiler Chicken"—C. H. Bigland, F. E. Graesser and C. Trylich.
10. "Testicular tumor in a Budgerigar"—C. H. Bigland, F. E. Graesser and K. S. Penniford.
11. "Large Round Worms in Chicken Eggs"—C. H. Bigland & F. E. Graesser.
12. "A Report on Ornithosis in Turkeys in Alberta"—H. C. Carlson, G. R. Whenham & C. H. Bigland.

Several thousand bulletins on veterinary subjects were distributed by this and the Extension Branches.

Report of the Schools of Agriculture and Home Economics Branch

J. E. HAWKER, B.Sc., B.A., Superintendent

J. E. Birdsall, M.Sc., Principal, Olds School

N. N. Bentley, B.Sc., B.A., Principal, Vermilion School

V. W. Osbaldeston, B.E., B.Ed., Principal, Fairview School

For the 1960-61 term, no students were graduated from the Fairview School since only first year students were registered in the fall of 1960. Graduation exercises were held at the Olds and Vermilion Schools on April 5th, 1961. On this date Diplomas of Graduation were presented as follows:

	Olds	Vermilion	Total
Diploma in Home Economics	12	12	24
Diploma in Agriculture	59	69	128
	<u>71</u>	<u>81</u>	<u>152</u>

The total of 152 graduates is fifteen above that of the total number graduating in 1960.

The annual conference for teaching staff at all Schools was held at the Fairview School October 12th and 13th, 1961. Workshops on the various subjects gave instructors an opportunity to review and up-date course content. Sessions were held on "Vocational Teaching Techniques" and "The Extra Curricular Program". A presentation was made by the superintendent on the Conference of Directors of Vocational Agricultural Education held in Paris, France, September 25th to 30th, 1961. The Principal of the Vermilion School, Mr. N. N. Bentley, gave an account of his previous year's mission to Iraq under the auspices of U.N.E.S.C.O.

In 1961 there were ten teaching staff changes. Three left to take other employment, two were granted leave for professional improvement, three were new appointments and not replacements and two left for family reasons. Mr. N. N. Bentley returned from a year's leave of absence spent in Iraq under the auspices of U.N.E.S.C.O. in time to resume his duties as Principal at the Vermilion School in the fall term.

The Fairview School continued operations on a ten-month basis for academic students and, effective September 5th, 1961, courses in Agriculture, Dressmaking and Food Service Management were placed on a similar basis. Home Economics, as such, was not offered.

Construction on a Mechanics Building, approximately three-quarters the size of the building destroyed by fire in 1958, was started late in the fall of 1961. It is expected the new building will be ready for occupancy by mid-February.

Board of Agricultural Education

The annual meeting of the Board was held in the office of the Deputy Minister of Agriculture April 12th, 1961. Since the legislature was still in session, the Chairman, Honourable L. C. Halmrast, named Mr. R. M. Putnam, as Acting-Chairman. Mr. Putnam called on the Minister to open proceedings with a statement regarding the schools. The Minister reported no final decision with respect to the Fairview School. The suggestion had been made that there be only one School of Agriculture for the province and that it should be the Olds School.

He paid tribute to the work of the schools but felt that changes were required. A member of the government had stated that funds now spent on Schools of Agriculture would, in his opinion, better be spent on teaching agriculture in the high schools.

It was pointed out that vocational agricultural instruction in the high schools of Alberta had not been too successful. Dr. Bentley stated what he considered the basic reasons for this as: (1) sparse rural population; (2) inadequate salaries for the best vocational agriculture teachers; (3) a short growing season and, as a result, limited field work for students. Dr. Byrne emphasized that teachers of vocational agriculture were paid at the same rate as other teachers. In his opinion, the failure of vocational agriculture in the public schools was due to the lack of attraction it has for students generally. Later, a motion was passed recommending that the government continue to operate the Schools of Agriculture and Home Economics as presently established.

Under the terms of the Students' Assistance Act, financial assistance to students for the 1960-61 school year for all Schools of Agriculture was as follows:

Total Loans	\$2,975.00
Portion of Total Loans Remitted	598.75
Prizes (\$50.00 each)	650.00

It was recommended that, effective September 1st, 1961, board and room charges to students should be increased from \$40.00 to \$50.00 a month and for teaching and administrative staff board and room charges should be increased from \$45.00 to \$55.00 a month.

The Department was also asked to give immediate consideration to the adoption of a ten-month term on a trimester basis at all Schools of Agriculture.

It was also recommended that regulations pertaining to liquor be amended to give greater discretionary powers to the Principals in dealing with student infractions of such regulations.

The 1961-62 Term

Because of the fact that no shops were in prospect at Fairview, registration for senior courses in agriculture (Second Year and Two-in-One) was not in evidence until December 11th, 1961. Hence student enrolment at that school is shown as of that date. Olds and Vermilion commenced classes on October 23rd, 1961. Enrolment at each school was as follows:

	(Oct. 23/61) Olds	(Oct. 23/61) Vermilion	(Dec. 11/61) Fairview	Total
Agriculture				
1st Year	46	52	19	117
2nd Year	32	34	23	89
Two-in-One	41	30	6	77
Sub-Total	119	116	48	283
Home Economics				
1st Year	4	5		9
2nd Year	4	4		8
Two-in-One	6	5		11
Dressmaking			5	5
Sub-Total	14	14	5	33
Total Vocational	133	130	53	316
Academics			34	34
Total Enrolment	133	130	87	350

Maintenance and Construction

At Fairview, construction of a new Mechanics Building was started November 22nd, 1961. Unseasonably cold weather delayed the job which had been scheduled for completion in December. It would now appear that occupancy of the new premises may be possible in February, 1962. Major maintenance included new sidewalks serving the Livestock Pavilion, concrete work at the dairy barn and bunker silo, modification of the feeding system in the hog and dairy barns and the repairing of the general power distributing system and the wiring in the hog barn. A normal program of painting and minor repairs to all buildings was carried out.

Major maintenance jobs at the Olds School included alterations to the Mechanics Building and repairs to the roof; rewiring of the boys dormitory, the east hog barn, the horse barn, the motors laboratory and one classroom; installation of 48 combination windows in the dormitory building; completing remodelling of east hog barn and other normal maintenance on all buildings. Construction of a new Plant Science Building started March 6th and was ready for partial occupancy at the close of 1961. The pavilion part of the new Dairy Building was put into use October 23rd and the installation of milking parlour equipment will be completed early in the new year. Two cattle sheds will be constructed in the spring from materials on hand.

No major construction was undertaken at the Vermilion School. Feed storage and handling were completed in the hog barn and a dry feed rack for beef cattle was constructed. A normal program of minor repairs and redecorating was carried out for all buildings.

Summer Program

School facilities at all three institutions were again in heavy demand during 1961. Indeed, what is here termed "summer program" has now been extended from the summer months to include conferences and other bona fide gatherings from as early

as February into mid-November. Again there were no summer short courses at Fairview due to the lack of gymnasium facilities.

At both Olds and Vermilion Schools the regular summer programs included Farm Women's Week, four one-week programs for 4-H Club members, Vermilion Fair Camp Week for boys and girls, and a two-day Schools of Agriculture teaching Staff Conference at Fairview. Other groups accommodated included: Agricultural Institute of Canada, Alberta Dairymen's Association, (Plant Section), 4-H Club Leaders' Conferences, Emergency Measures Organization, Fire Chiefs' Schools, Provincial Horticulture Organization, Seed Cleaning Plant Operators, District Agriculturists' Short Course, Public School Teachers' Conventions, and a number of others.

Appreciation

The work of the Schools of Agriculture continued to receive very generous support from commercial companies, individuals, farm and other organizations. While part of this support was in the form of personnel assistance, particularly during short courses, most of it consisted of financial support to students in the form of bursaries, scholarships and prizes. The Department appreciates most sincerely all of these contributions.

Federal Government and University of Alberta officials have been most helpful. Their assistance is gratefully acknowledged.

There is an active alumni association at each school and, during 1961, a joint alumni executive was set up for all three schools. The separate and combined support of these groups is very much appreciated.

During 1961, the very high degree of co-operation of all principals and staff members has been most gratifying. The principal and staff of the Fairview School are to be commended particularly for carrying on a new and rather complex program under difficult circumstances.

OLDS SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The year was satisfactory in most respects. Enrolment was near capacity in Agriculture but continued very low in Home Economics; the level of education and performance of students was reasonably satisfactory; a satisfactory degree of stability was in evidence with regard to staff at all levels; the School facilities were used fairly fully throughout most of the year. The teaching of Home Economics and Industrial Arts to Junior High School students for the County of Mountain View during spring and fall months was continued. A fairly heavy program of maintenance was carried out; farm production was below normal as a result of drought.

The shortage of teaching space and facilities created through the loss by fire of the Livestock-Field Crops building in February, 1960, was alleviated to some extent by the opening of a pavilion type of livestock classroom in October. A new Plant Science Building was ready for partial occupancy at the end of the year.

Special Lecturers and Visitors

Three specialists gave courses of several days duration in January and February. Mr. D. Harrington of Irrigated Land Development staff at Lethbridge lectured to Second Year and Two-in-One students on Irrigation. Dr. J. G. O'Donoghue, Extension Veterinarian, gave a series of lectures in Animal Sanitation, and Mr. J. Edmunds, Supervisor of Apiculture, lectured in Bee-keeping to the same students.

Special speakers, who visited the School to give one lecture each included Dr. C. F. Bentley, Dean, Faculty of Agriculture, University of Alberta; Messrs. Stothart, McFadden and Friesen, Experimental Farm, Lacombe; Dr. J. Gordon Ball, Professor of Farm Management, University of Alberta; Miss E. Empey, Director, School of Home Economics, University of Alberta; Mr. E. Nelson, President, Alberta Farmers' Union; Dr. Greenaway, D.V.M., Acme; C. L. Edwards, Nuffield Scholar, Three Hills; Mr. F. Krause and Mrs. Bristow, National Employment Service, Red Deer; A. M. Wilson, Field Crops Commissioner, W. H. T. Mead, Livestock Commissioner, and P.D. McCalla, Supervisor of Horticulture. Besides these speakers safety displays and films were shown by the Calgary Power Company and the Workmen's Compensation Board.

Graduation

At the closing exercises held April 5th, 1961, Dr. J. Gordon Ball, Professor of Farm Management, delivered the address to the graduating class. John Prentice of Olds (formerly of Scotland), a Second Year Agriculture student, was valedictorian. Mr. J. E. Hawker, Superintendent, Schools of Agriculture, represented the Department of Agriculture. A Surplus Wheat Board University Scholarship was awarded to John Prentice of Olds. Prizes for proficiency in various fields were awarded to seventeen graduating students. Diplomas of graduation were awarded as follows:

	Second Year	Two-in-One	Total
Agriculture	24	35	59
Home Economics	6	6	12
	<u>30</u>	<u>41</u>	<u>71</u>

Home Economics and Industrial Art Courses for Junior High School Students

For the second consecutive year an agreement was entered into with the County of Mountain View to provide facilities and instructors to teach Woodwork and Home Economics to Grade 7 and 8 pupils from the Olds School. From April 17th to June 30th, seventy-eight boys and seventy-eight girls, and from September 5th to October 13th, seventy-eight boys and seventy-five girls were given instruction. Instruction was given by Miss Gwen Daley and Mr. G. B. Harrison, both of the Olds School of Agriculture staff.

Adult Courses

As an experiment in adult education program sewing was offered two afternoons per week for a six-week period in Novem-

ber and December. A maximum quota of twelve women was set and some had to be turned away. This course was handled in addition to the regular clothing courses by Miss G. Daley.

Special Events

The Little Royal and Achievement Day was held on Saturday, March 25th, 1961. A preview of the Dress Review was held on the previous evening and it was staged morning and afternoon as well. About 1,200 people in total viewed this event. Total attendance for all events was about 1,700. Judge of the Little Royal was Mr. W. H. T. Mead, Livestock Commissioner. Glenn Osborn of Weyburn, Saskatchewan, won the Master Showman award.

A summer Alumni Reunion was held on August 4th. About 250 people attended this function which consisted of an afternoon program, buffet supper, annual meeting, evening program and dance. The classes of 40, 25, 10 and 5 years ago were specially honoured.

The fall Alumni dance was held on November 25th with approximately 200 in attendance.

Other Events

The following is a list of other major functions held at the School during 1961:

Month	Event	Attendance
April	Provincial Horticultural Meeting	60
April	4-H Club Leaders' Conference	60
April	Fire Officers Training School	40
April & May	District Agriculturists School	87
June	W. I. Constituency Conference	80
June	District 10—F.U.A. Convention	150
July	W. I. Girls' Club Week	172
July	Farm Women's Week	40
July	4-H Club Week	190
August	4-H Provincial Eliminations	190
August	Band Clinic	125
August	Co-op Seed Cleaners' Annual Meeting	60
August	Drama Seminar	50
October	C.G.I.T. Conference	140
October	C.G.I.T. Leaders' Conference	105
October	Chamber of Commerce Dinner	100
October	4-H Leaders' Conference	95
November	Emergency Measures Organization Exercise	
	Tocsin	65

In addition to the events listed above there were a number of afternoon and evening gatherings of 4-H Clubs, farmers meetings, and District Agriculturists Training courses for farmers. These together with the events listed above and the Little Royal and Achievement Day account for at least 4,200 people coming to the School in organized groups during the year. Besides these, many individuals and small groups visited the School.

Summer Activities of Teaching and Administrative Staff

Name	Position	Summer Duties
G. A. Ogston	Farm Foreman	At the School and 4-H judging.
Miss G. Daley, B.Ed.	Clothing Instructress	Extension work and teaching for County of Mountain View.
Miss E. S. Sokoluk, B.Sc.	Foods Instructress	4-H Staff.
H. W. Sutherland, B.Sc.	Farm Management Instructor	Extension Service.
W. C. Kirk, B.Sc.	Mechanics Instructor	Extension Service.
H. J. Armstrong	Metals Instructor	Field Crops Branch.
O. E. Oxtoby, B.Sc.	Science Instructor	Assistant District Agriculturist - Smoky Lake.
W. Collin, B.Sc.	Plant Science Instructor	4-H Staff.
Ross Hamilton, B.Sc.	Farm Mechanics Instructor	Extension Service. Transferred to Irrigated Land Development October 1st.

Grounds and Plots

With the erection of a new Plant Science Building and other new buildings in the planning stage, extensive road building and landscaping was carried out. Existing plantings were maintained and improved.

In the plot area co-operative tests of forage crops and cereal varieties as well as cultural tests were carried for the Dominion Experimental Farm at Lacombe. A co-operative potato disease test was carried for the Department of Plant Science at the University of Alberta. The plot area was also used for the production of vegetables for the dormitory and of classroom material of grasses, legumes, cereals and vegetables. The plot of breeders' seed of Olds Creeping Red Fescue was a failure on account of drought.

Maintenance Program

A fairly heavy program of repairs and redecorating in buildings was carried out. Major jobs included alterations in the Mechanics Building to improve the motors laboratory and washroom facilities; recoating of Mechanics Building roof; rewiring of boys' dormitory, east hog barn, horse barn, motors laboratory and one classroom in the Mechanics Building; stucco washing the dormitory building and repainting all house roofs; completion of remodelling of east hog barn; partial remodelling of horse barn to calf and bull barn and preparation of old bull barn for conversion to maintenance shop; installation of 48 combination windows in dormitory building.

Good progress was made towards obtaining equipment for the proposed Maintenance Shop.

Public Works Construction

The new Plant Science Building was staked out on March 6th and was ready for partial occupancy at the end of the year. Only minor installations remained to be done. The pavilion portion of the Dairy Building was put into use for livestock

classes when school opened on October 23rd. Equipment for the milking parlor was on order at the end of the year.

Material for two cattle sheds was on hand for construction in the spring. Materials for grounds lighting had been ordered as had the fire alarm system.

The School Farm

Although rainfall was near normal, moisture was lacking in the early part of the growing season, resulting in below average yields of cereal and forage crops. The quality of hay was excellent and the grain crop was harvested under ideal weather conditions.

The crops grown and yields were as follows:

	Acreage	Yields
Wheat	18	800 bus.
Oats	90	4,500 bus.
Hay	120	60 Ton
Silage	55	135 Ton
Greenfeed	40	30 Ton
Straw	100	23 Ton
Pasture	120	.....

Livestock

The livestock came into the winter in desirable condition having pastured aftermath and cereal hay into December.

One Yorkshire boar was purchased for the swine herd.

The following is an inventory of Livestock as of December

31st, 1961:

Shorthorns	72
Holstein Friesian	39
Suffolk Sheep	77
Yorkshire Swine	130
Light Sussex Poultry	343

Farm Sales

Farm Sales for 1961 were as follows:

Dairy Products	\$ 5,640.33
Poultry and Eggs	1,031.62
Vegetables	420.00
Livestock	10,933.93
TOTAL	\$18,025.88

Equipment Replacement

A new swather and disc harrow were purchased as replacements. A rod weeder and cattle squeeze were added to the equipment of the farm.

The 1961 Fall Term

Registration by classes was as follows:

	Agriculture	Home Economics	Total
First Year	46	4	50
Second Year	32	4	36
Two-in-One	41	6	47
	119	14	133

By the end of the term the number of students in Agriculture was reduced by six. One boy, who was a potential trouble maker, left by request and five others left for personal reasons such as home-sickness and illness at home.

A complete and competent staff was on the job throughout the term. Student performance was satisfactory.

Instructional and Administrative Staff for the Fall Term

J. E. Birdsall, M.Sc.—Principal, Community Organization
 Mrs. F. A. Hodgson, B.A.—Dietitian
 Mrs. M. Beckett, R.N.—Dean of Women, School Nurse
 R. P. Warrington, F.R.G.S.—Dean of Men, English
 J. Potts—Recreation Supervisor, Assistant Dean of Men
 G. Daley, B.Ed.—Clothing
 E. S. Sokoluk, B.Sc.—Foods
 Mrs. E. V. Clarke, B.Sc.—Home Management and Handicrafts
 H. J. Armstrong—Metalwork
 W. C. Kirk, B.Sc.—Machinery and Motors
 J. L. Stone—Shop Assistant, Mechanics
 G. B. Harrison, B.Sc.—Farm Structures
 H. W. Sutherland, B.Sc.—Farm Management
 W. Collin, B.Sc.—Field Husbandry, Animal Science
 W. Baranyk, B.Sc.—Plant Science
 O. Oxtoby, B.Sc.—General Science
 G. A. Ogston—Farm Manager, Animal Science
 J. I. D. Mathieson—Commercial Subjects, Mathematics
 L. A. Allen—Maintenance Supervisor
 J. M. Shaver—Accountant
 Mrs. B. Brown—Librarian
 Miss D. M. Hoel—Secretary
 Mrs. H. W. Sutherland—Stenographer

VERMILION SCHOOL OF AGRICULTURE AND HOME ECONOMICS

General

Strong enrolment of students in Agriculture and declining enrolment in Home Economics continued through the 1960-61 and 1961-62 terms.

Apparently the action taken regarding salary reclassification and upgrading of staff positions proved effective in easing difficulties experienced in former years with the result that the 1961-62 term opened with a full complement of Administrative and Instructional Staff.

Mr. B. J. Godwin, B.Sc., Instructor in Botany and Horticulture, was granted one year leave of absence to pursue studies at the University of Alberta under the terms of the Professional Improvement Act.

Mr. N. N. Bentley, Principal, who had been on leave of absence for a special mission in Agricultural Education for UNESCO returned to duty on October 1st.

The normal program of classes and extra-curricular activities was carried through with notable success.

Special Lecturers and Visitors

Visitors and guest speakers who addressed students during the term included principally Department of Agriculture officials, members of the Faculty of Agriculture at the University of Alberta and Subject Matter Specialists.

Dr. J. G. O'Donoghue, Extension Veterinarian from the Alberta Department of Agriculture, again met students in the Graduating Classes for special lectures and demonstrations. Mr. F. L. Griesbach, Fieldman for the Farmers' Union of Alberta, also addressed members of the Graduating Classes in Agriculture.

Graduation—April 5, 1961

The Commencement Address was delivered by the Reverend Father Murray of Wilcox, Saskatchewan, and R. M. Putnam, Deputy Minister, represented the Alberta Department of Agriculture.

Diplomas of Graduation were awarded as follows:

	Agriculture	Home Economics	Total
Second Year	43	6	49
"Two-in-One"	26	6	32
	<u>69</u>	<u>12</u>	<u>81</u>

Winners of Major Scholarship Awards were:

- Winnipeg Grain Exchange—General Proficiency—
Bernard Eyben, Vermilion.
- Vermilion Chamber of Commerce—Greatest Contribution—
John Eaton, McBride, B.C.
- Line Elevators Farm Service—Plant Science—
George Anderson, Sugden.
- Craig Brothers—Animal Husbandry—
Len Dyer, New Norway.
- British American Oil Company—Farm Management—
Jim Fraser, Ribstone.
- Imperial Oil—Farm Mechanics—Anrew Clark, Athabasca.
- Alberta Poultry Association—Poultry—
Dennis Stady, Edmonton.

Winners of **Staff Medals** were:

- Fred Brook, Vermilion.
- Lloyd Miller, Benita, Manitoba.
- Terry Vickerson, Sexsmith.

Special Events

Established events which brought large numbers of visitors to the School included the V.S.A. Alumni Re-Unions, Parents' Weekend and a District High School Basketball Tournament.

"Little Royal and Achievement Day":

Mr. J. L. Kerns, District Agriculturist, Ponoka, was guest livestock judge at this event which attracted an attendance of over eight hundred persons.

Members of the Graduating Class who had chosen the Animal Husbandry Elective assumed special supervisory responsibilities and attracted favourable comment for the quality of their work. Maynard Jorgenson, Carnwood, won the Livestock Judging Competition and Terry Vickerson, Sexsmith, as Champion Showman was selected to be the first winner of "THE HIRSCH TROPHY" made available for annual competition by Allen Hirsch (V.S.A. '60), New Sarepta, Alberta.

Schedule of Other Events:

4-H Club—Leaders' Conference	February	17
William Lobay—Weed Control Address	February	24
Sewing Clinic—12 ladies	February	29
V.S.A. Alumni Re-Union	March	3
4-H Club Speaking Contest	March	10
Parents' Visit	March	18
Fire Chiefs' School	June	12-16
Farm Women's Week	July	3- 6
W.I. Constituency Conference	July	6
V.S.A. Alumni Re-Union	July	7
4-H Club Weeks	July	10-22
Lloydminster Fair Camp Tour	July	22
Vermilion Boys' & Girls' Fair Camp	July	24-29
Workmen's Compensation Board Industrial Safety School	August	24-25
Vermilion District Teachers' Convention	October	9-20
Municipal Affairs Training Course	October	31
Parents' Visit	November	26

Employment of Staff Through the Summer Months

Miss J. F. Haworth was employed as District Nurse by the Department of Health.

Mr. G. C. Boulet was Assistant District Agriculturist at Berwyn; Mr. R. S. Forrest was employed as an Agricultural Engineer in Field Work for the Extension Service Branch; Mr. R. M. Gratz worked as District Supervisor with 4-H Clubs; Mr. L. G. Seath supervised Development of Community Pastures; and Mr. K. M. Stone was District Supervisor for the Field Crops Branch. Mrs. L. C. Johnson was employed in Clothing Work by the Women's Extension Service.

Mr. B. J. Godwin was employed on a special assignment in Weather Forecasting with the Meteorological Services.

School Grounds and Plots

The School grounds, gardens, nursery and field crop plots attracted increasing numbers of casual visitors and served to provide useful material for summer program events as well as for illustrative and practical exercises in the winter classes.

Maintenance Program

Redecorating and repairing jobs in the student residences, classrooms and other buildings employed major attention of the Maintenance Staff through the summer.

Feed storage and handling facilities in the hog barn were completed and a large dry feed rack for cattle was constructed on the farm.

The School Farm

In spite of exceptionally hot, dry weather, good yields of high quality cereal grains were harvested. The normal livestock program continued without major incident and generally good production was secured.

Maintenance of the dairy cattle herd sire was discontinued with the establishment of an A.I. Breeding Unit in the Vermilion District from which breeding services were made available to the School Farm.

Cropping Program—1961

Crop	Acres	Yield
Wheat	5½	210 bus.
Oats	68	6,010 bus.
Barley	30	1,014 bus.
Hay	81	124 tons
Silage	69	198 tons
Breaking	40	
Fallow	40	
Pasture	112½	
TOTAL	416	

Vegetables harvested included 14 tons of potatoes and 3½ tons of other vegetables for consumption in the School Dormitory.

Livestock Inventory—December 31, 1961

Dairy Cattle	44
Feeder Steers	20
Horses	2
Sheep	65
Swine	66
Poultry	495

Principal replacements of equipment included one Massey-Ferguson 35 Tractor and one heavy-duty, rubber-tired wagon.

Farm Sales—1961

Vegetables	\$ 310.65
Milk	3,005.34
Cream	2,695.32
Eggs	1,667.54
Poultry	208.74
Livestock for slaughter	9,414.63
Livestock for breeding purposes	1,008.25
Wool and hides	226.78
	<hr/>
	\$18,567.25

The 1961 - 62 Term

Enrolment	1st Year	2nd Year	Two-in-One	Total
Agriculture	52	34	30	116
Home Economics	5	4	5	14
	<hr/>	<hr/>	<hr/>	<hr/>
	57	38	35	130

Electives, made available to members of the Graduating Class for special attention through the Saturday morning periods, attracted enrolment as follows:

Agriculture

Motor Mechanics	20
Welding	16
Animal Husbandry	17
Farm Building	11

Home Economics

Clothing	5
Foods	4

Second Year and "Two-in-One" girls chose to study Horticulture rather than Record Keeping and Typewriting.

The School continued to enjoy fine support from farm organizations and commercial firms through contributions to its listing of Scholarships and Prizes.

Special note must be made of the co-operation extended by Canadian Utilities and various firms in Vermilion who loaned equipment and materials for demonstration purposes and use by the students in classroom exercises.

Sixteen students received loans under the Students' Assistance Act.

Teaching and Administrative Staff — 1961 - 62

Bell, Mrs. K. I.—Stenographer
 Bennett, Miss Pearl, B.Sc.—Instructress in Foods
 Bentley, N. N., B.A. B.Sc.—Principal, Instructor in Marketing
 Boggs, G. A.—Instructor in Farm Structures
 Boulet, G. C., B.Sc. Instructor in Agricultural Science
 Cooper, H.—Accountant
 Forrest, R.S., B.Sc.—Instructor in Automotives & Draughting
 Gratz, R. M., B.Sc.—Instructor in Poultry & Dairying
 Harcus, J. F. B.Sc., B.Ed.—Farm Superintendent & Instructor in Animal Husbandry
 Haworth, Miss J. F., R.N.—Dean of Girls & School Nurse
 Johnson, Mrs. L. C.—Instructress in Clothing
 Leitenberger, W. D.—Instructor in Horticulture & Botany
 Olson, W. B.—Maintenance Foreman & Metalwork Instructor
 Palin, J. A. R., B.S.A.—Instructor in Farm Machinery
 Parlee, Mrs. E. C.—Dietitian
 Reason, Miss H.—Staff Stenographer
 Seath, L. G. G., B.Sc.—Instructor in Farm Management
 Stone, K. M., B.Sc.—Instructor in Field Husbandry
 Turner, B. P.—Dean of Men's Residence & Instructor in Physical Training

FAIRVIEW COMMUNITY COLLEGE

General

For the 1960 - 61 term no graduation exercises were held at Fairview for the vocational students since only first year students had registered in the fall of 1960. Five academic students graduated and were included in the Fairview High School graduation ceremonies. From the end of March to June 30th only academic students were resident at the college. From March 20th to June 30th facilities and instructors were provided

for sixteen boys in Agriculture 10 and sixteen girls in Home Economics 10 from the Fairview High School.

On June 16, 1961, it was confirmed that Fairview Community College would operate in 1961 - 62 and that a Mechanics Building would be built. On September 5, 1961, nine first year agriculture students and twenty-nine academic students started classes. The academic students received instruction at the Fairview High School under the same arrangement as previously.

A new program of studies had been arranged for the girls to include special training in Clothing or special training in Foods. On October 23, 1961, four girls registered for the Clothing Course. The Foods course was withdrawn for the 1961 term but will be offered again in 1962.

On October 23, 1961, eighteen more first year Agriculture students registered making a total of 27 first year agriculture students. One boy dropped out after two weeks for family reasons and one boy was suspended for three weeks of the second six-week term because of a liquor violation.

On December 11, 1961, one first year boy, fourteen second year boys and four two-in-one boys registered for courses in Agriculture and one second year girl for Clothing. Two academic girls completed their courses, and one academic boy went elsewhere, five more academic girls and five more academic boys registered. Two academic boys transferred from academic to two-in-one agriculture to make the two-in-one agriculture class of six boys.

The total registration at the end of the year was 87 students, twenty-five girls, 20 of which were academic and five in clothing, 62 boys, 14 of which were academic, 23 of which were second year agriculture and 6 of which were two-in-one.

Interesting to note is the fact that one academic boy was taking one course in high school and two courses in the agricultural course. This was possible because of the trimester system used in both academic and vocational courses.

Special Lecturers and Visitors

During 1961 the following were guests at the College:

- Mr. W. H. T. Mead, Livestock Commissioner—guest lecturer.
- Mr. R. P. Dixon, Supervisor of Dairy Cattle Improvement—guest lecturer.
- Battle River 4-H Club.
- Mr. W. Leishman & Mr. N. Neame of National Grain—guest lecturers.
- Mr. Les Arnold, Supervisor, Frozen Food Locker Plants—guest lecturer and demonstrator.
- Dr. Gariepy, Health of Animals Branch, Federal Department of Agriculture—guest lecturer.
- Dr. O'Donoghue, Extension Veterinarian—guest lecturer.
- Mr. D. A. Fimrite, M.L.A.
- Mr. J. Scruggs, M.L.A. and School Boards and representatives from Municipal Districts.
- Mr. E. C. Pelham of St. Albans, Hertsfordshire, England.
- Miss A. B. McFarlane, Supervisor of Home Economics, Department of Education.
- Mr. M. G. Gault, School Superintendent, Athabasca.
- Mr. R. M. Ward, School Superintendent, Fairview.

Mr. A. Kerr, Accountant, Royal Bank, Fairview—guest lecturer.
 Mr. C. Rhodes, School Superintendent, Grande Prairie—guest lecturer at Staff Conference.
 Dr. Kivi, Barley Breeder from Finland.
 Dr. A. Guitard, Cerealist, Beaverlodge Experimental Station.
 Mr. D. H. McCallum, Dairy Commissioner,—guest lecturer.

Graduation

No graduation ceremonies were held in 1961 except in conjunction with the Fairview High School when five academic students who were resident in the College were graduated.

Special Events in the 1961 Term:

The spring closing banquet was held on March 30th. About 140 students and guests attended. Mr. J. E. Hawker, Superintendent, was guest speaker. The Fairview Community College was host to the Fairview High School graduation banquet which was held on May 26th. About 170 students, teachers, parents and guests attended this function.

A special dance provided by the students union was held in the dining room for all students attending in 1960 - 61 term on June 17, 1961.

On June 24th, 1961, the Alumni held their annual reunion supper and dance.

The Christmas Closing Banquet was held on December 21st. About 150 students, guests and staff were in attendance. Bursaries were presented by the various representatives. Dr. M. M. Woronuk, President of Alberta Dental Association and local dentist, was guest speaker.

The College was host to the Honourable E. W. Hinman, Provincial Treasurer, the Honourable A. O. Aalborg, Minister of Education, and the Honourable L. C. Halmrast, Minister of Agriculture, on the occasion of a visit to the Peace River area and the College.

A very successful career night was staged for the students in attendance. Many guests from the local area were invited to speak regarding their careers.

Schedule of Other Functions

Other functions for which the College provided facilities were as follows:

February 4	A.I.C., A.I.A., B.C.A.I. Peace River Branch	Annual Meeting
February 22	Fairview School Board	A Meeting
April 26	Alberta Dairymen's Association (Plant Section)	Conference
May 27	Civil Service Association of Alberta	Civil Service Seminar
October 12 & 13	Alberta Department of Agriculture Schools Branch	Staff Conference for the three Schools

Grounds and Plots:

The grounds were improved considerably through the efforts of Mr. C. N. Freeman, Horticulturist and Grounds Supervisor. Every second tree was removed from the wind break on the north of the campus. The Larch planted last year did not grow. Some new plantings were planned with the help of Mr. B. J. Godwin and carried out through the year. New plots were seeded in 1961.

Maintenance Program

Major maintenance projects performed this year were new sidewalks around the pavilion, a pad in front of the dairy barn and a bunker silo built south east of the dairy barn. An auger system was installed in the hog barn and an overhead bin installed in the dairy barn. The old partitions were removed from the loft of the dairy barn. The hog barn was rewired. The electrical distribution system was checked and defective poles and anchors replaced.

The painting program was carried forward for all the houses on the campus and down town and some of the dormitory exterior.

The program of gradual replacement of defective galvanized piping and wiring was continued. Two hot water tanks were replaced in staff houses and a condensate return tank in the main building was replaced.

Department of Public Works Construction

Construction on the Mechanics Building was started November 22nd. Unseasonably cold weather in the latter part of November and the beginning of December delayed work on the foundation but it was completed before the end of the year.

The College Farm

The 1961 crop year was very good in the Fairview area. The total precipitation was above average, and the seasonal rainfall allowed good seeding and growing conditions. The early spring was rather dry however, and pastures and hayland suffered somewhat. Heavy rains occurred during June and July, giving way to a dry period in August and September which contributed to excellent harvesting conditions.

The short dry period during late April and May necessitated the grazing of most reserve hayland. Hence the reduced yields of crop on this farm. A good alfalfa crop locally helped, in that 120 tons of excellent quality hay was available for purchase.

The seeding of oats and fall rye proved useful in that an excellent crop of silage was harvested, from part of the seeding, while the balance of the crop served as fall grazing.

Farm Crops—1961

Crop	Acreage	Yield (approx.)
Hay	77	50 tons
Barley	30	1,490 bus.
Oats and Fall Rye	30	56 tons (silage)
Pasture	79	

Farm Livestock—1961

Kind	Breed	Total at Dec. 31/61	
Cattle	Holstein	23	
	Aberdeen Angus	28	
	Hereford	6	57
Sheep	Rambouillet	17	
	Romnelet	18	
	Suffolk	2	
	Hampshire	1	
	N. C. Cheviot	1	39
Swine	Yorkshire	34	34
	Belmont 292	217	217

Farm Sales for 1961

Livestock	\$ 2,527.85
Milk and Cream	4,334.30
Eggs	1,071.84
Wool	24.60
Poultry	239.15
	<u>\$ 8,197.74</u>

The 1960 - 61 Term:

Enrolment at commencement date for various courses was as follows:

	Jan. 1/61	Mar. 16/61	Sept. 5/61	Oct. 23/61	Dec. 11/61
1st Yr. Agriculture	23	23	9	27	19
2nd Yr. Agriculture	(Nil)	Nil	Nil	Nil)	23
		No Shops			
Two-in-One Agriculture ...	(Nil)	Nil	Nil	Nil)	6
Academic—Boys	29	19	12	12	14
Girls	12	12	17	17	20
Dressmaking			Nil	4	5
Home Economics	9	9	Nil	Nil	Nil
	<u>73</u>	<u>63</u>	<u>38</u>	<u>60</u>	<u>87</u>

Appreciation

Appreciation is expressed to the following for their support of the college program:

Alberta Wheat Pool	Canadian Legion
United Grain Growers	Winnipeg Grain Exchange

for making bursaries available to assist students.

Also our sincere thanks to the following:

Mr. W. P. Loggie, The Alberta Hatching Egg Association,
 Mr. and Mrs. McBryan, Queen Elizabeth Scholarship Fund,
 Drs. Kratz, The Line Elevator Farm Service
 for scholarships donated in 1961.

The College operated on a trimester system for academics with instruction being given by the Fairview High School. The College and the High School have co-operated to the advantage of students attending. Appreciation is expressed to the Fairview School Board, the Fairview School Superintendent, Mr. R. M.

Ward, and the Fairview High School Principal, Mr. B. J. M. Roe and his staff for their co-operation.

The Fairview High School gymnasium was rented for two to three nights a week so as to enable the College to carry on its sports program. This has proved workable but difficult in that more staff supervision was required.

Excellent co-operation has been received from the staff at Fairview Community College notwithstanding several handicaps and changes in schedules due to lack of shop facilities.

Teaching and Administrative Staff

Several staff changes have occurred in 1961. Mr. S. A. Rowe resigned as Farm Foreman, June 16th, 1961, and Mr. A. B. Jorgensen was appointed effective September 1, 1961. Miss S. M. McLachlan was appointed Instructress in Foods effective September 25th, 1961. October 1st, 1961, Mr. E. F. W. Mueller was appointed Farm Mechanics Instructor. Mr. A. E. Keller was appointed Farm Structures Instructor on November 27th, 1961.

On December 1st, 1961, Mr. A. R. Jones was loaned to the College by the Extension Branch to make possible a change in program because of the lack of a Mechanics Building. Mr. Jones taught Farm Management to Second Year students.

Mrs. B. Chapman was employed as a part-time stenographer starting November 15, 1961. On December 27th Mr. Dale Fleming was employed as full time clerk-stenographer.

Mr. J. T. Lancaster was granted leave of absence effective September 16th, 1961, for the purpose of attending University of Alberta in the Faculty of Education.

The staff at the end of December, 1961, was as follows:

- V. W. Osbaldeston, B.E., B.Ed.—Principal, Community Organization, Maintenance Supervision.
- L. T. Jones, B.S.A.—Animal Husbandry, Farm Management (Part)
- J. H. Warne, B.Sc.—Dean of Men, English, Mathematics, Farm Management (Part)
- J. P. Tait, B.Sc.—Science, Field Crops (Part)
- C. N. Freeman, B.S.A.—Horticulture, Botany and Field Crops (Part)
- E. F. W. Mueller, B.E.—Farm Mechanics, Science.
- A. E. Keller, B.E.—Farm Structures, Drafting.
- K. J. MacDonald, B.S.A.—Dairy (Part Time)
- G. E. Patsula, B.Sc.—Poultry (Part Time)
- Miss N. I. Semotiuk, B.Sc. (H.Ec.)—Clothing
- Miss S. M. McLachlan, B.Sc. (H.Ec.)—Foods, English
- Miss M. F. Daly, R.N.—School Nurse and Dean (Part Time)
- Miss T. Graham—Dean of Women and Dietitian
- Miss M. L. Scott—Secretary
- A. D. Parkkari—Accountant
- Mrs. W. Bartlett—Librarian
- D. Fleming—Clerk-Stenographer

Report of the Radio and Information Branch

E. B. SWINDLEHURST, Supervisor
 E. V. Hamula, Senior Commentator
 C. Scott Flewitt, Commentator
 Miss D. R. Rodney, Information Officer

The function of the Radio and Information Branch was to provide up-to-date information for farmers and homemakers of Alberta.

Through weekly releases and daily radio programs, knowledge procured from research people, department specialists and others was passed on for farm information and use.

Radio Production

During 1961 "Call of the Land", a Monday to Friday noon-day farm radio broadcast was aired 260 times on each of ten Alberta radio stations. Following was the complete roster of stations broadcasting "Call of the Land".

CKUA Edmonton	12:20 p.m.	CKSA Lloydminster	12:50 p.m.
CFRN Edmonton	12:45 p.m.	CJDV Drumheller	12:50 p.m.
CFGP Grande Prairie	12:05 p.m.	CFCN Calgary	1:00 p.m.
CFCW Camrose	12:05 p.m.	CJOC Lethbridge	1:05 p.m.
CKRD Red Deer	12:45 p.m.	CHAT Medicine Hat	1:05 p.m.

Among the primary objectives of the radio personnel in this branch was making the best possible use of radio and television as agricultural information media. To best achieve this, effort was continually made to provide material of a variable and appealing nature to as many rural homes as possible. Again this year attention was concentrated on variety, preciseness and timeliness. Liaison and service to commercial farm radio and television personnel, on-the-spot reports and interviews, advertising of Alberta Department of Agriculture services, emphasis on current farm problems, emergency situations, as well as agricultural conventions, conferences and special events, all received attention.

The many calls for services from personnel of this branch by commercial and farm organizations have led to its recognition as a focal point of farm information.

"Call of the Land" was produced, recorded and distributed from the studios of the Radio and Information Branch in the Brock Building. Excellent co-operation was again received from the engineering and managerial staff of CKUA and CFRN, Edmonton. Again this year technical facilities of CFRN, Edmonton, and CFCN, Calgary, were used for the direct transmission of a total of eleven broadcasts to and from other parts of the Province. Network line facilities were arranged for by the Alberta Government Telephones.

Evaluation

Listeners inquiries and Bureau of Broadcast Measurement survey results are used as guides to evaluate popularity of "Call of the Land". Many letters and telephone requests for information related to subjects aired on the broadcast were received from day to day. Among situations covered which received more notable response were: a series on the beef cattle breeding project by the University of Alberta at Kinsella; another on University guest week-end when the broadcast was taken over by the Agriculture students of the Faculty of Agriculture; also, a series on life insurance which drew considerable attention from the Alberta and Canada Life Underwriters Associations.

Bureau of Broadcast Measurement surveys, conducted in the spring of 1961, showed that approximately 45,000 radio sets were tuned in daily to the ten Alberta radio stations airing "Call of the Land" at the time the show was being broadcast. Costs of the service is estimated at less than one-half a cent per person reached per day, or approximately 50c per thousand of audience.

Programming

In the gathering of material a great deal of effort was put into providing an interesting variety of material pertaining to all phases of farming in Alberta. This year efforts were again concentrated on variety of presentation. Broadcasts contained an average of five items each, with on-the-spot interviews, commentaries and editorials in the lead as methods of presentation.

	Number of Programs
	1961
(a) The Personality interview	82
(b) On-the-spot reports and interviews	116
(c) Miscellaneous items and announcements	37
(d) Editorial (by commentators or guests)	24
(e) Musical (special days—Christmas)	1
	<hr/> 260

This year 1278 items were aired on 260 shows. A strict policy of editing items and interviews down to minimum essentials has made it possible to carry as many as ten different items in any one show.

The following tables show the nature of the material used and the number of times dealt with during the year.

	Incidence
(1) General Agriculture (including world and national items)	172
(2) Livestock	284
(3) Field Crops and Soils	246
(4) Farm Safety	42
(5) Farm Management	66
(6) 4-H	61
(7) Poultry	31
(8) Dairying	74
(9) Veterinary Science	26
(10) Horticulture	38
(11) Farm Mechanics	29
(12) Agricultural Pest Control	74
(13) Schools of Agriculture	28
(14) Beekeeping	13
(15) Fur Farming	11
(16) Miscellaneous (Consumer topics, announcements, etc.)	83

1,278

Sources of personality appearances for the year were as follows:

	Number of Appearances
Alberta Department of Agriculture	76
Other Alta. Government Departments	11
Canada Department of Agriculture	26
University of Alberta	16
Farm People (Including 4-H)	79
Others	36
	<hr/> 244

To provide the desired variety and local color for each show, extra travel to all parts of the Province as well as many special programs were necessary. Among the special series were seven daily features originating from the Royal Winter Fair. For the fourth year in succession these were relayed to radio stations by Alberta Government Telephones network each morning thus providing an up-to-date reporting service. In addition daily night press reports of Alberta winnings at the Royal were supplied to six daily news outlets. This was the seventh successive year in which reports to Alberta from the Royal were made. The assignment was handled by Scott Flewitt who worked in close liaison with other Alberta Government officials, as well as with press, radio and television personnel.

Other events handled in a similar manner were the Alberta Federation of Agriculture, Farmers Union of Alberta and Western Stock Growers conventions, and the Calgary and Edmonton Exhibitions and Spring livestock shows. Attendance at agricultural events or conventions averaged nearly one per week. In addition, staff members were called on to take part in panel discussions, courses on communications and public speaking, as well as to assist in public relations problems confronting other branches in the department and Faculty of Agriculture, University of Alberta.

As of December 31st, this branch had produced 2,284 continuous Monday through Friday farm broadcasts.

Television

During 1961, branch personnel co-operated with the Film and Photographic Branch of the Provincial Secretary's Department in issuing to each TV station in Alberta, as well as the C.B.C., 1,200 feet (36 minutes) of film material on coverage of the Royal Winter Fair at Toronto in November. Alberta is the only province in Canada that provided this service, which was very much appreciated by the stations who regard it as part of their regular programming each year at that time.

New Services

Late in June of the year, an Agricultural weather forecast was instituted by the department and co-ordinated by the Branch. A forecast covering a two to three day period with implications on the agricultural side was issued daily by Mr. B. J. Godwin, in co-operation with the Dominion Government Meteorological Offices in Edmonton. It was released by teletype to regional

wire services of Canadian Press. Radio and television, as well as several daily newspapers, incorporated the information as a new regular daily feature. The service terminated at the end of the crop growing season. A survey of daily media outlets in Alberta indicated unanimous approval of the service and requests for its continuation.

Science and the Land

Periodic visits to the agricultural research centres in Alberta resulted in release of 73 issues of Science and the Land in 1961. This publication, prepared in co-operation with research personnel, contains popular reports of results and progress of scientific investigation as it affects the farmer.

Calls were made at the Research Stations at Lethbridge and Edmonton, the Experimental Farms at Beaverlodge and Lacombe, the Horticultural Station, Brooks, and various departments of the Faculty of Agriculture at the University of Alberta. Topics discussed and reported upon included soils, cereals, forage crops, horticulture, insects, plant diseases, weeds and live stock.

Attended also during the year were the annual meeting of the Entomological Society of Alberta, the Western Canadian Weed Control Conference, and meetings in Edmonton of the advisory committees of the Crop Production Board. An opportunity occurred of visiting the Central Experimental Farm in Ottawa and of there discussing with research and information people their plans and procedures.

At all places visited, fullest co-operation was received and information made freely available on results, work in progress and experiments under consideration.

Farm Notes

Concise notes of farm and homemaking interest were again featured in the weekly issues from this office of the Alberta Department of Agriculture Farm Notes.

Prepared by the Information Officer following interviews with Department and other specialists were 290 items during the past year. Including a variety of topics, Farm Notes were again well received and widely used by press, radio and key personnel to whom they were mailed.

Excellent co-operation has been experienced from all concerned and their contribution throughout the year has been keenly appreciated.

Report of the Land Conservation and Utilization Committee

G. R. STERLING—Chairman

H. W. Thiessen—Supervisor of Irrigated Pastures

Personnel of this Committee remained the same as in the 1960 Report. Two meetings were held and the following work completed on projects as listed below:

Rannock:

Fencing on the WH 21 and NH & SE of 16, all in 55-10-4, was completed. A fire guard was bulldozed around the area sprayed in 1960 ready for burning in 1962. This pasture carried 804 head.

Wanham:

This pasture was officially opened June 7, 1961, by A. O. Fimrite, M.L.A., Wanham. It carried 453 head during the year. The cultivated portions on the EH 27, SH 32, NH 22 and SE 34, all in 79-2-6, were seeded to a forage mixture. Fences were completed on the south east and north east fields. Part of this pasture produced brome seed which was harvested by local farmers.

Minburn:

This pasture was officially opened on June 14th by Hon. L. C. Halmrast, Minister of Agriculture. It carried a total of 910 head. All perimeter and cross fences were completed during the year. One 40 acre field, where grass did not catch, was summer-fallowed.

Westlock, Wetaskiwin, Ponoka, Thorhild and Smoky Lake:

Funds did not permit work on these pasture projects during 1961.

St. Paul:

This Municipal District requested assistance with the following area. Secs. 25-27, inclusive, EH 32, and Secs. 33-36, inclusive, all in 55-10-4; and Secs. 2-4, EH 5, EH & NW 8, Secs. 9-11, inclusive, and Secs. 14-17, inclusive, all in 56-10-4. The land Utilization Committee recommended that this area be set up as a community pasture when funds are available.

Stony Plain:

This Municipal District requested assistance with the following area: NH 26, NH 27, NH 28, NH 29, NH 30, Secs. 31-35, inclusive, and the WH 36 all in 51-6-5, WH 1, Secs. 2-11, inclusive,

WH 12, WH 13, Secs. 14-23, inclusive, WH 24, WH 25, Secs. 26-35, inclusive, and the WH 36, all in 52-6-5; and WH 1, Secs. 2-6, inclusive, SH 7, SH 8, SH 9, SH 10, SH 11, and the SW 12, all in 53-6-5. The Land Utilization Committee recommended that this area be set up as a community pasture when funds are available.

Grazing Associations:

Grazing Associations requested and received assistance as follows:

Name of Association	Amount of Loan	What Money Used For
Clear Hills Grazing Association	\$ 500.00	Clearing Fence Lines
Clear Hills Grazing Association	1,367.13	Fencing Materials
Cresthill Farmers' Community Cattle Grazing Lease	800.00	Stock Water Supply
Hays Stock and Grazing Association	2,079.00	Fencing Materials
Island Lake Grazing Association	593.09	Fencing Materials
Lekenwa Cliff Grazing Association	785.29	Fencing Materials
North Eaglesham Grazing Association ..	504.00	Clearing Fence Lines
North Eaglesham Grazing Association ..	1,170.08	Fencing Materials
North Group Cattle Grazing Association	600.83	Fencing Materials

Green-Yellow Line:

One parcel of land was purchased in the green area from Mr. Jesse Huseby. The land consisted of the following: NH 2, All Sec. 11 lying east of the river and Sec. 12, all in 47-9-5. Said lands were turned over to Forestry for administration.

Soil and Feed Testing Laboratory:

G. R. Sterling continued as a member of the supervisory committee of this laboratory. Two meetings were held throughout the year. The following table shows the samples handled during the last six years:

1956	1,543
1957	1,649
1958	2,378
1959	2,219
1960	3,681
1961	3,794

Below is a table showing the different samples analyzed and a breakdown of the feed samples. Note that 799 samples of feed were submitted but analysis was done on 1,116 feeds because special analysis was performed on some feeds.

	Feeds	Farm Soils	Greenhouse Soils	Total for Quarter
January 1—March 31	330	426	281	1,037
April 1—June 30	66	711	129	906
July 1—September 30	78	320	177	575
October 1—December 31	325	796	155	1,276
Total for Year	799	2,253	742	3,794

Breakdown of Feed Samples Analyzed

	Grains	Hays	Silages	Special* Analyses	Total for Quarter
January 1—March 31	89	173	66	147	475
April 1—June 30	34	27	5	8	74
July 1—September 30	25	50	2	27	104
October 1—December 31	76	175	48	164	463
	<u>224</u>	<u>425</u>	<u>121</u>	<u>346</u>	<u>1,116</u>

* Nitrates; Prussic Acid; Carotene; Fat

IRRIGATED PASTURES**Seven Persons:**

The Colonization Branch surveyed and designed 205 acres and 21½ miles of fence lines.

The following development was completed on this project:

NW 16-11-7-4	63.2 acres	30,822 cu. yds.
NW 17-11-7-4	46.0 acres	22,442 cu. yds.
SW 20-11-7-4	32.7 acres	16,884 cu. yds.
SE 22-11-7-4	15.0 acres	2,864 cu. yds.
SE 28-11-7-4	48.3 acres	23,723 cu. yds.
	<u>205.2 acres</u>	<u>96,735 cu. yds.</u>

The house and corral site were levelled. Dugouts were constructed on the NW 34-11-7-4, SE 34-11-7-4 and on the SW 21-11-7-4. Ditches were constructed to service the newly levelled areas and several road approaches were built up.

Most of the turn out and diversion boxes were completed but cold weather prevented the completion of this work. Perimeter fencing was completed. A total of 1,389 acres were irrigated. Thus some land was irrigated as often as 5 times.

The WH 29-11-7-4 was obtained from Lands and Forests and the EH 29-11-7-4 and NW 20-11-7-4 from the irrigation district, to be included in the pasture.

Bow Island:

Colonization Branch surveyed and designed about 500 acres on this project. One mile of fence was built. About 240 acres were ripped for levelling and 8,500 cu. yds. of dirt were moved to construct a large fill.

The NE 17, SW 21 and NE 21, all in 17-12-10, were obtained for inclusion in the pasture.

REPORT OF THE BOARD OF TRUSTEES THE SURPLUS WHEAT BOARD MONIES TRUST ACCOUNT

Honourable L. C. HALMRAST, Chairman
R. M. Putnam, Deputy Minister of Agriculture
Richard Ballhorn, Farmer, Wetaskiwin, Alberta
Arthur Pierson, Vice President and Treasurer of the Independent
Grain Co., Calgary
H. W. Gaebel, Secretary, Department of Agriculture

Receipts for the year ending December 31st, 1961, totalled \$3,596.86, all of which was in payment of interest on investments.

Payments for the year ending December 31st, 1961, amounted to \$2,210.00, which were made up as follows:

Scholarships and Bursaries	\$ 2,200.00
Meeting Expenses	10.00
Total	<u>\$ 2,210.00</u>

Meetings

A meeting of the members of the Board was held on August 25th, 1961, and scholarships and bursaries totalling \$3,650.00 were made available for the coming year.

General

The Board of Trustees is continuing with the policy of conserving the principal in the Trust Fund, making all payments from income received on investments. A further sum of \$5,000.00 of the surplus was invested in debentures.

Since the Board instituted the policy of providing scholarships and bursaries, the sum of \$40,851.26 has been paid out for this purpose totalling 476 in number.

LIST OF SCHOLARSHIP WINNERS NAMED DURING 1961

4-H Club Winners—\$100.00 each

Carley Ann Mundt	Spruce Grove
Norma Swiersche	Holden
Madeline Babey	Myrnam
Harriet Richards	Blueberry Mountain
Karen Rasmussen	Duchess
Deena Van Leeuwen	Rainier
Clarence Powley	Vegreville
Bill Kamps	Lacombe
Mildred Israelson	Amisk
John Campbell	Mossleigh
Mervin Peterson	Medicine Hat
Ruth Ann Woods	Spruce Grove
Pat Churchill	Paradise Valley
Sandra Pierce	Mapova
Leila Thompson	Fort Vermilion
Esther Neilsen	Rocky Mountain House
Edmund Lefsrud	Viking
Terrence Leslie	Sedgewick
Adolph Saskiw	Beauvallon
Terry Balisky	Sexsmith
Dick Hardy	Pincher Creek

To University of Alberta from Agricultural Schools—\$150.00 each
 Mungo Allan Forbes Vermilion
 John Prentice Olds

University of Alberta Young People's Week—\$100.00 each
 Bernard Blom Coronado

Bursaries awarded to Young People Attending an Agricultural School—\$100.00 each

Gary Harley Gibson, Acme	George W. Rock, Drumheller
Harvey Rae Glasier, Gadsby	Ronald E. Lind, Cherhill
Myrtle Purdy, Gunn	Noel D. McDougall, Spedden
Hans Egge, Woking	Francis D. Vekved, La Glace

**TREASURY DEPARTMENT
 WHEAT BOARD MONIES TRUST FUND
 Balance Sheet as at December 31, 1961**

ASSETS

Current

Bank Balance	\$ 6,158.62	
Accrued Interest Receivable	618.43	
		\$ 6,777.05

Investments

	Par Value	Book Value
Govt. of Canada 3¾% due Jan. 15/78	\$ 2,500.00	\$ 2,516.00
Prov. of B.C. 3% due Dec. 15/69	45,000.00	44,815.42
Prov. of N.B. 3½% due April 1/67	45,000.00	44,927.26
Ont. Hydro Elect. 4¼% Nov. 1/67	4,000.00	3,978.56
Prov. of Newfoundland 3¾% June 1/76	4,000.00	3,908.08
City of Calgary	4,000.00	3,996.24
	<u>\$104,500.00</u>	<u>\$104,141.56</u>

Total Investments (Book Value)	\$104,141.56
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Total Assets	110,918.61
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LIABILITIES

Trust Fund December 31, 1960	\$109,483.65
Add: Surplus for 1961	1,434.96
Total Liabilities	\$110,918.61

**TREASURY DEPARTMENT
 WHEAT BOARD MONIES TRUST FUND
 Accrued Interest as at December 31, 1961**

Government of Canada Debs.			
\$2,500.00 3¾%, January 15/78, 5½ months	\$	42.96	
Province of British Columbia Debs.			
\$45,000.00 3%, December 15/69, ½ month		56.25	
Province of New Brunswick Debs.			
\$45,000.00 3½%, April 1/67, 3 months		393.75	
Ontario Hydro-Electric Debs.			
\$4,000.00 4½%, November 1/67, 2 months		28.33	
Province of Newfoundland Debs.			
\$4,000.00 3¾%, June 1/76, 1 month		12.50	
City of Calgary Debs.			
\$4,000.00 3½%, July 1/68, 6 months		70.00	
Bank Interest			
November, 1961 \$ 7,008.62.....@ 1¾%	\$	10.08	
December 1961 7,083.62.....@ 1¾%		10.53	20.61
			\$ 624.40

Add: Accum. of Discount

Accrued on Prov. of B.C. ....	.96
" Prov. of N.B.	3.31
" Ont. Hydro	1.19
" Prov. of Newfoundland ....	.80
" City of Calgary26

 6.52
Less: Amort. of Premium

Accrued on Govt. of Canada55	5.97
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Net Earnings Accrued to December 31, 1961	\$	618.43
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TREASURY DEPARTMENT**WHEAT BOARD MONIES TRUST FUND****Statement of Receipts and Payments for the Year Ended December 31, 1961**

Bank Balance January 1, 1961	\$	4,771.76
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Interest on \$ 2,500 Govt. of Canada	\$	93.74
" 45,000 Prov. of B.C.		1,350.00
" 45,000 Prov. of N.B.		1,575.00
" 4,000 Ont. Hydro Electric		170.00
" 4,000 Prov. of Newfoundland ...		150.00
" 4,000 City of Calgary		140.00
" Bank Balances		118.12

 3,596.86

 \$ 8,368.62
Deduct Payments:-

Scholarships—Fairview School	\$	600.00
—Olds School		600.00
—Vermilion School		700.00
—University of Alberta		300.00
Meeting Expense—Richard Ballhorn		10.00

 2,210.00

 \$ 6,158.62

Report on Farm Credit

G. R. STERLING, Executive Assistant & Chairman Advisory Committee
K. G. TAYLOR, Farm Credit Administrator & Secretary, Advisory Committee

Farm Purchase Credit Act

During the fiscal year April 1st, 1960, to March 31st, 1961, the Provincial Advisory Committee approved 492 applications, committing a total of \$2,534,810.00 in Government loans.

There were 71 Farm Purchase Boards operating at the end of 1961. The following is a list of the Counties, Municipal Districts and Improvement Districts which have formed boards up to and including December 31st, 1961, along with a listing of applications which have been handled by the Provincial Advisory Committee since its inception in 1957. The figure in brackets shows the number of applications submitted to the Advisory Committee for the year 1961 only.

District	Applications Submitted to Prov. Committee	Approved	Rejected	Withdrawals	Hold for more Information	Value of Farm Lands	Loans
Athabasca	31 (14)	17	7	7	.....	\$ 157,349.00	\$ 72,100.00
Barrhead	3 (3)	1	2	.....	.....	8,200.00	4,100.00
Beaver	117 (38)	91	19	3	4	964,550.00	445,370.00
Bonnyville	32 (11)	25	5	1	1	251,900.00	121,700.00
Camrose	93 (39)	78	12	.....	3	926,015.00	461,385.00
Cardston (Western) ..	42 (9)	36	5	1	.....	471,675.00	202,907.50
Cardston (Eastern) ..	7 (2)	5	2	.....	.....	38,000.00	18,300.00
Eagle	47 (17)	36	10	.....	1	254,550.00	125,475.00
Flagstaff	38 (27)	33	4	1	.....	325,750.00	162,275.00
Foothills	27 (12)	23	4	.....	.....	395,028.00	177,400.00
Forty Mile	39 (6)	33	3	1	2	410,488.27	185,736.63
Grande Prairie	49 (19)	34	15	.....	.....	333,800.00	152,050.00
Kneehill .....	( )	.....	.....	.....	.....	.....	.....
Lacombe	7 ()	6	1	.....	.....	68,050.00	33,775.00
Lac Ste. Anne	28 (19)	15	10	2	1	136,200.00	64,074.50
Lamont	100 (32)	79	17	2	2	894,550.00	351,525.00
Leduc	74 (34)	65	4	3	2	652,175.00	319,937.50
Lethbridge	44 (10)	26	16	.....	2	422,420.00	194,995.00
Minburn	73 (23)	52	18	1	2	514,910.00	243,885.00
Mountain View	35 (5)	21	13	.....	1	279,800.00	131,300.00
Newell	8 ()	6	2	.....	.....	70,400.00	30,360.00
Paintearth	62 (28)	58	2	1	1	431,970.00	257,605.00
Peace	3 (2)	2	1	.....	.....	29,000.00	14,500.00
Pincher Creek (new) ..	( )	.....	.....	.....	.....	.....	.....
Ponoka	44 (11)	37	4	2	1	513,650.00	240,525.00
Rimbey	37 (8)	22	13	1	1	229,400.00	106,620.00
Rock View	55 (25)	48	6	.....	1	843,225.95	334,891.95
Stettler	12 (6)	11	1	.....	.....	130,800.00	65,400.00
St. Paul	20 (6)	14	6	.....	.....	97,500.00	48,750.00
Smoky Lake .....	( )	.....	.....	.....	.....	.....	.....
Smoky River	7 (7)	6	1	.....	.....	33,180.00	16,590.00
Spirit River .....	( )	.....	.....	.....	.....	.....	.....
Starland	34 (13)	26	6	.....	2	295,340.00	142,045.00
Stony Plain	11 (4)	7	3	.....	1	61,500.00	29,050.00
Strathcona	10 (4)	8	1	.....	1	94,250.00	42,575.00
Sturgeon River	35 (13)	21	10	1	3	276,970.00	127,175.00
Thorhild	36 (15)	27	7	.....	2	207,800.00	100,150.00
Vermilion River	47 (16)	42	4	1	.....	456,950.00	226,175.00
Vulcan	70 (21)	59	6	2	3	815,025.00	357,272.50

District	Applications Submitted to Prov. Committee	Approved	Rejected	Withdrawals	Hold for more Information	Value of Farm Lands	Loans
Wainwright	25 (14)	18	2	1	4	202,200.00	101,100.00
Warner	22 (5)	16	4	2		252,600.00	110,150.00
Westlock	114 (49)	82	30		2	768,550.00	369,200.00
Wetaskiwin	28 (14)	17	11			201,700.00	91,850.00
Wheatland	14 (5)	12	1		1	180,080.00	80,700.00
Willow Creek	55 (15)	37	15	3		538,401.00	253,884.50
Special Areas #2	69 (17)	59	7	3		579,970.00	283,703.00
Special Areas #3	28 (13)	23	5			268,580.00	123,640.00
I. D. # 11	31 (17)	15	12	3	1	259,600.00	119,230.00
I. D. # 22	3 ()	1	2			16,000.00	8,000.00
I. D. # 42	()						
I. D. # 58	4 (2)	1	3			13,000.00	6,500.00
I. D. # 65	41 (14)	25	16			224,200.00	109,300.00
I. D. # 77	1 ()	1				2,000.00	1,000.00
I. D. # 78	8 (2)	6	2			19,250.00	8,575.00
I. D. # 95	4 ()	2	2			17,000.00	8,500.00
I. D. #101	9 (1)	6	3			38,000.00	17,350.00
I. D. #102	34 (7)	18	15	1		103,100.00	47,680.00
I. D. #107	3 (1)	2	1			8,200.00	3,840.00
I. D. #108	1 ()	1				3,500.00	1,750.00
I. D. #109	2 (1)	2				17,500.00	8,750.00
I. D. #111	()						
I. D. #124	3 (3)	2	1			178,500.00	8,925.00
I. D. #125	12 (6)	7	5			31,500.00	15,550.00
I. D. #126	7 (3)	3	3		1	19,500.00	9,750.00
I. D. #131	3 ()	1	2			8,000.00	4,000.00
I. D. #132	11 (2)	4	4	1	2	25,000.00	12,500.00
I. D. #134	9 (3)	7	1	1		36,000.00	21,000.00
I. D. #138	12 (2)	4	8			29,315.00	11,361.00
I. D. #139	2 ()	1	1			5,500.00	2,750.00
I. D. #146	2 ()	1	1			6,000.00	3,000.00
I. D. #147	1 ()	1				4,900.00	2,450.00
TOTALS—71	1,935 (695)	1,445	397	45	48	\$15,989,367.22	\$7,453,964.08

Of the 1445 applications approved, 535 applications have been approved in 1961, with \$2,884,592.13 committed in loans for the twelve month period.

Purchase Boards have been formed in all areas of the Province with the exception of the Municipal Districts of Taber, Red Deer, Provost, Acadia Valley and Fairview.

The Chairman or Secretary visited 14 different Farm Purchase Board meetings during 1961, and met with M.D. Councils on 3 occasions to discuss the Farm Purchase Credit Act. The operation of the Act was explained at 19 public meetings on Farm Credit and at 3 Regional Conferences held for Bank Managers.

The Provincial Advisory Committee held 32 meetings during the year, and have met a total of 94 times since the Act was passed in 1957.

Farm Home Improvement Act

The Farm Home Improvement Act was passed in 1959. During 1961 a total of 57 loans were made with a total value of \$93,028.00.

A total of 176 loans valued at \$278,068.00 have been made under this Act since inception.

Farm Economics Branch

Dr. G. R. PURNELL, Director

B. J. McBain, Agricultural Economist, Supervisor of Cost Studies

K. D. Porter, Agricultural Economist, Cost Studies

T. A. Petersen, Agricultural Economist, Farm Management

C. H. Ferries, Agricultural Economist, Marketing and Outlook

This Branch was established in April, 1960, and for the balance of the calendar year was closely associated with the Extension Branch. In January, 1961, full autonomy was given to the Farm Economics Branch and Dr. A. G. Ball of the University of Alberta faculty was appointed Acting Director on a part time basis. Dr. Ball provided a great deal of assistance in laying a foundation for the program of the Branch. However, he resigned in July and Mr. Petersen of the Branch staff was designated Acting Director. Dr. Purnell was appointed as Director in December, 1961.

A basic nucleus of a program in Agricultural Economics was laid out, wherein four general areas of concentration were selected. These areas were Farm Cost Studies involving specific agricultural commodities or geographic areas in the Province; Farm Management to assist in the extension to farmers of information on the basic principles of sound management practices; Marketing and Outlook to aid in the collection, analysis and extension of information to help agricultural producers and marketing agencies in their production and marketing decisions; and General Agricultural Economics to establish a background of analyses in the area of economic development, supply and demand, and agricultural adjustment and rehabilitation. The Branch will also incorporate other areas pertaining to the economics of agriculture as a long range program is developed.

Close relationships were maintained by this Branch with the University of Alberta, Agricultural Faculty and the Economics Division of the Canada Department of Agriculture. Formal assistance was provided by the Branch to the University by permitting a staff member to teach a course in farm management at the University. The University has borne a proportionate share of the salary for this staff member during the time involved for teaching.

FARM COST STUDIES

Sugar Beets

During 1961 a start was made on the additional studies requested. The available information was reviewed for a sugar beet study covering all the sugar beet production areas and a random sample was drawn for study from the Sugar Beet Growers lists. Due to the lateness of the spring it was the wish of the Sugar Beet Growers executive to postpone commencing the study until the following year.

Oilseeds

Late in the spring requests were made for oilseed studies for the crops of rape and sunflower. Studies were organized to commence a three-year study of the sunflower growers. These all fell in the south of the province up to Claresholm, Vulcan and Bassano areas. Approximately one-half of the sixty some growers were on irrigation and the other half on dry land.

After a review of the areas producing rapeseed the two areas of the greatest density were selected for study. These were the Didsbury to Red Deer areas and the Peace River area from Peace River to Fairview to Manning. A random sample of every fourth farm was drawn for study. Farms which included less than twenty acres of rapeseed crop were excluded. Field schedules were drawn up and calls were made in the summer to record all input and output data on all sequences of rape production. A schedule of farms specially devised for oilseed crop history was used by the economists in securing this information at the farm. In addition, yield data were recorded for the other crops being grown on the same farms in order to assess the relative success of the rapeseed crop.

Second calls were made by staff members in the fall. Well over one hundred records were completed on the specialty crops of rapeseed and sunflower.

Co-operation was secured from the Western Oil Seed Processors to supply lists of growers and size of contracts and also following harvest, to supply all particulars of the crop deliveries to the plant and the price paid. Elevator companies also co-operated in providing lists of rapeseed growers in two areas selected for study of this crop namely, Didsbury to Red Deer and the Peace River, Fairview to Manning area.

Following are some tables showing preliminary results of the oilseed crop analysis.

TABLE I

RAPESEED PRODUCTION STUDY

Gross Crop Yields

Crop 1/	Olds Area—38 Farms		Peace River Area—32 Farms	
	Acres Per Farm	Yield	Acres Per Farm	Yield
Rapeseed	57	22 bus. (1,100 lbs.)	70	17 bus. (850 lbs.)
Wheat	41	19 bus.	86	29 bus.
Oats	52	33 bus.	36	39 bus.
Barley	138	25 bus.	55	37 bus.

1/ Includes owned and rented land of grain crops only.

TABLE II**RAPESEED PRODUCTION STUDY**

Crop	Land Use			
	Olds Area—38 Farms		Peace River Area 32 Farms	
	Acres Per Farm	Percent	Acres Per Farm	Percent
Rapeseed	57	9	70	11
Wheat	41	6	86	14
Oats	52	8	36	6
Barley	138	21	55	9
Other Grain (Mixed and Seeds)	14	2	33	5
Greenfeed	26	4	6	1
Tame Hay	42	6	16	2
Summerfallow and Breaking	125	19	114	18
Tame Pasture	32	5	11	2
Wild Pasture & Waste	131	20	202	32
TOTAL	658	100	629	100

TABLE III**SUNFLOWER SEED PRODUCTION STUDY**

Crop	Gross Crop Yields			
	Dry Land 1/		Irrigated Land (Brooks, Bassano area only)	
	Acres Per Farm	Yield	Acres Per Farm	Yield
Sunflower Seeds	95	29 bus. (696 lbs.)	25	33 bus. (792 lbs.)
Wheat	425	16 bus.	60	19 bus.
Oats	54	22 bus.	22	52 bus.
Barley	73	25 bus.	34	26 bus.

TABLE IV**SUNFLOWER SEED PRODUCTION STUDY**

Crop	Land Use			
	Dry Land 1/		Irrigated Land (Brooks, Bassano area only)	
	Acres Per Farm	Percent	Acres Per Farm	Percent
Sunflower Seed	95	6	25	6
Wheat	425	26	60	14
Oats	54	3	22	5
Barley	73	5	34	8
Other Grain (Mixed & Seeds)	119	7	47	11
Greenfeed	17	1	15	4
Tame Hay	17	1	39	9
Summerfallow & Breaking	747	47	92	22
Tame Pasture	3	1	12	3
Wild Pasture & Waste	69	4	71	18
TOTAL	1,602	100	417	100

1/ Dry—Warner, Claresholm, Vulcan Area

Consultant to Milk Control Board

The Supervisor of Cost Studies continued to act as consultant to the Milk Control Board by maintaining close connection with members of the "Utility Board" charged with milk control. Details of changes in trends in production costs were provided and discussed at various times throughout the year.

It was planned to make an analysis and report on the results of the long term studies which have been conducted on the dairy operations over the past twenty-two years.

Three Fluid Milk Studies Completed in 1961

There were some one hundred and five fluid milk records taken at the milk sheds of Calgary, Edmonton, Lethbridge and Medicine Hat. There were one hundred fluid milk reports sent out in the year, each containing over one hundred entries of accounting results and measures of management efficiency.

A twenty-one year analysis of milk production has now been completed for the Edmonton area and some of the most important topics of the analysis are listed in Table I. This is indicative of what has been worked for the four areas of milk control under continuous study. The long term continuity has been made possible by the continued request and some financial support from the Milk Control Board and the milk producers and processors of Alberta.

TABLE I

TWENTY-ONE YEARS OF DAIRY FARM COST STUDY ANALYSIS

Edmonton area—for illustration of highlights of data at ten-year intervals.

	1939-40	1949-50	1959-60
Number of farms under study	47	51	34
Size of Business			
Capital invested	\$16,939	\$30,761	\$52,934
Crop Acres	133	186	303
Number of milk cows	20.4	25.1	32.2
Labour			
Man equivalent per farm	2.6	2.5	2.1
Productive man work units per man	230	264	366
Labour per pound of butterfat (hrs.)	1.01	0.49	0.32
Labour per cwt. of milk (hrs.)	3.53	1.62	1.09
Gross Operating revenue per man	\$ 1,873	\$ 4,552	\$ 8,602
Net Operating revenue per man	\$ 532	\$ 861	\$ 2,724
Capital			
Operator's revenue per \$1,000 invested	\$ 281	\$ 351	\$ 340
Crops			
Yield per acre: Barley	23	12	22
Oats	34	20	37
Roughage	1.0	0.7	1.4
Livestock			
Milk production per cow (lbs.)	8,340	8,847	10,261
Butterfat per cow (lbs.)	296	302	345.9
Grain and supplement fed per dairy animal unit (lbs.)	2,440	2,278	2,687
Roughage per dairy animal unit (tons)	3.2	3.3	3.9
Butterfat Test (%)	3.5	3.3	3.4

Miscellaneous Activities

In reference to the technological changes in fluid milk production a twenty-year review of economic and operational progress was made and distributed. An address on the outlook for dairy operations was given in one of the milk sheds currently

facing considerable readjustment. During the year consultations with committees on special crop studies were held and consideration was given to requests for studies in the near future. Frequent individual interviews with farmers seeking information or assistance on farm management in dairy, livestock, oilseed and cereal crops were held throughout the year. Talks on Specialization in Farming, Irrigated Specialty Crops and Fluid Milk Production were given at short courses and at other agricultural meetings.

FARM MANAGEMENT

Interest in the area of farm business management continued to increase in Alberta in 1961. Wide publicity by many agencies on farm business adjustment problems, plus the greater realization by farmers that their profit margins were shrinking were the main reasons for more emphasis being placed on this aspect of farming.

The farm management staff tried to meet this demand as adequately as possible, considering the limited staff and basic research which has been done in these fields. During 1961, the staff has placed more emphasis on the training and servicing of district agriculturists and other agricultural extension personnel; rather than on direct contact with individual farmers.

Following are the major areas of work undertaken by the farm management section of the Farm Economics Branch in 1961.

Farm Management Short Courses and Workshops for Farmers

The staff participated in a number of short courses organized chiefly by district agriculturists, but also by Chambers of Commerce and other organizations interested in promoting farm economics education. Forty-six events involved the use of Branch personnel for talks on Farm Management, Marketing, Outlook, Credit, and the other areas included in agricultural economics.

In-Service Training Course

An intensive one-week course in agricultural economics and farm management principles and application was given at the Olds School of Agriculture in May to Department of Agriculture personnel. Instruction and laboratory supervision was undertaken by Farm Economics Branch personnel. Each participant was required to complete laboratory exercises and problems in farm economics as well as a three-hour written test at the termination of the course. Lesson material from the course has been mimeographed and made available to those in attendance for further management work in their local areas.

Farm Management Data Manual

Work has continued on the loose leaf manual prepared for the use of district agriculturists in their farm economics extension work. This manual was set up so that out-dated pages can be replaced as circumstances dictate. This idea has met with a very good reception from district agriculturists and the loose leaf manual was indexed to provide for the orderly filing of farm management principles, standards and worksheets which

were sent out periodically by the staff. Provision was made for such items as condensed material on farm records and analysis, input-output standards, wills and estates, budgeting, marketing outlook and policy. Economic information involving other branches in the Department of Agriculture was compiled in co-operation with the branches concerned.

Agricultural Statistics for Alberta Manual

An indexed loose leaf manual to hold the bi-monthly statistics released by the Agricultural Statistician was prepared and placed in the hands of the district agriculturists and branch heads in October. The purpose was to make this valuable information more readily available to those desiring to make use of it.

Farm Finance Conference

Several of the Farm Economics Branch staff were closely associated with the organization and operation of three two-day farm finance conferences at Calgary, Edmonton and Grande Prairie. These were organized by the University Department of Extension mainly for rural bankers, but also for other agencies concerned with the availability and use of agricultural credit. Methods of farm record keeping, management analysis, and farm investment criteria were discussed by the staff of the Farm Economics Branch. The various forms and aids used by the Farm Management staff were demonstrated. The reception was favorable and more emphasis on this field by rural bankers in the future was indicated.

Farm Management Associations

The Red Deer-Lacombe pilot Farm Business Association functioned again under the supervision and direction of the local district agriculturists and the Farm Economics Branch. Each member again contributed an annual membership fee of \$10.00 which was used for farm business analyses services and printing of reports. A number of winter workshops were held on farm management topics. This pilot project has been successful and attempts will be made to expand the program into other areas. Its main purposes were threefold (1) to give the farmer actual training in record keeping, analysis and planning, (2) to give the district agriculturist training in interpreting farm records and analysis results so that his advice to farmers improved, (3) to collect objective local farm business data which are so necessary in giving confidence and accuracy in farm business planning. These three objectives were accomplished by the farmer, the district agriculturist and the Farm Economics Branch, all having a working participation in the project.

Hog Quality Study

This study was a result of preliminary statistical work on hog grades done by the district agriculturist in Lacombe county to assess the need for hog quality improvement. In 1961 a random sample of the 1,300 farms producing hogs in the county was selected and each was interviewed on his hog production

management and methods, using a prepared detailed survey questionnaire. The results will be analyzed, using statistical inference techniques to determine the priority of importance of the various management and husbandry techniques thought to effect hog grades.

Farm Forum Guide

The Branch was asked to prepare a study guide for the Farm Radio Forum study groups on the topic "Farm Management Through Group Action in Alberta". The purpose of this study guide was to prepare the farm radio forum discussion groups in Alberta for the C.B.C. broadcast and discussion group meetings on the evening of January 15, 1962. This guide was widely distributed to all farm radio forum groups, as well as to farmers participating in District Agriculturists Farm Management programs and others.

MARKETING AND OUTLOOK

A limited investigation was made as to the potential market for Alberta processed dehydrated potatoes. Owing to lack of time and of staff to thoroughly study this question in the manner and over the area that should have been considered, the investigation was limited to the market potential of the Edmonton area.

The essence of the report was that there was a market for processed dehydrated potatoes but price would be the determining factor as to the extent of the market and the quantity of potatoes taken.

A study of the input-output relationships and marketing channels for a selected number of commercial egg producers was initiated in co-operation with the Poultry Branch. This is a three-year project and the results of this study should prove useful to extension people in assisting farmers in planning their farm business.

Report of the Alberta Emergency Measures Organization

HONOURABLE L. C. HALMRAST, Minister-in-Charge

Arnold J. Lavoie, Co-ordinator

Responsibilities and Aims

1. The Alberta Emergency Measures Organization was responsible for the development and co-ordination of civil emergency planning in the fields of continuity of government and civil defence.
2. The primary aims of Emergency Measures and Civil Defence were to prevent the unnecessary loss of life and to ensure the continuity of civil government in any catastrophe.

General

3. The report for 1960 was a detailed report and included statistics for previous years. This report covers the year 1961 only, and it will be necessary, therefore, to refer back to the 1960 report for detail and statistics to cover the period prior to 1 January, 1960.
4. During 1961, the general public were more actively interested in the program than at any time since its inception. This interest has been from the point of view of personal survival, created, no doubt, by the unsatisfactory international situation and the resumption of nuclear tests, with associated publicity concerning the dangers of radioactive fallout.
5. During the year, two further volumes of the Alberta Survival plan were issued. Volume Two was General Information for those engaged in survival planning. Volume Three was the basic Operational Plan for the Government of Alberta in an emergency and will be supplemented by detailed departmental plans.
6. Two National Exercises, in the TOCSIN series, were conducted. The purpose of these exercises was to staff and test the operation of Emergency Headquarters at all levels of Government.
7. In November, the Minister-in-Charge, the Co-ordinator and Deputy Co-ordinator attended the annual Dominion/Provincial Conference called by the Government of Canada for the purpose of discussing National Policy relating to Civil Emergency Planning and Operations.
8. In December, a series of one-day conferences was held with elected municipal officials. These conferences were similar to conferences held in the previous year but more emphasis was placed on Municipal Emergency Planning. Additional detail related to these and other conferences, is shown in Annex A.

9. Harmonious working relationships were maintained with other agencies engaged in survival planning, in particular, with the Emergency Measures Organization of the Government of Canada, all Provincial Government Departments and Agencies, and the Canadian Army.
10. The task of planning, organizing and training to minimize loss of life and to ensure the continuity of government during a national emergency is extensive, but significant progress was made during the year. Tribute must be paid again to the many volunteer workers involved in the program who recognize that service on behalf of their fellow man constitutes one of the highest forms of citizenship.
11. This report is divided into five parts, with supplementary annexes:
 - (a) Part ONE - - - - Organization
 - Part TWO - - - - Continuity of Government
 - Part THREE - - - - Training
 - Part FOUR - - - - Administration
 - Part FIVE - - - - Civil Defence
 - (b) Annex "A" - - - - Conferences
 - Annex "B" - - - - Training Details, Canadian Civil Defence College, Arnprior, Ontario
 - Annex "C" - - - - Training Details, Provincial and Municipal Schools
 - Appendix I to Annex C Alberta Civil Defence Extension Schools
 - Appendix 2 to Annex C Municipal Radiation Monitoring Courses
 - Appendix 3 to Annex C Civil Defence First Aid and Home Nursing Courses
 - Annex "D" - - - - Training Details, Civil Defence Exercises
 - Annex "E" - - - - Alberta EMO Public Information Program

PART ONE — ORGANIZATION

12. The controlling, advisory, and administrative elements remained the same as in 1960.

Alberta EMO Staff

13. The full-time staff of Alberta EMO, throughout the Province, consisted of 29 EMO officers and a clerical staff of 17, which included the staff of Emergency Health Services and Emergency Welfare Services, Emergency Fire Services and Emergency Communications.

Alberta EMO Zones

14. Prior to 15 August, 1961—for administrative and operational purposes—the province was sub-divided into four zones. On

15 August, an adjustment of boundaries to form three zones was effected, after consultation with the Government of Canada. During a national emergency, each Zone Headquarters will function—to the extent necessary—as a centre of emergency government, under the control of the Alberta Regional Headquarters. A rearrangement of staff was made to provide an additional staff officer in the Northern Zone and Southern Zone.

15. Zones were established as follows:

- (a) **Peace River Zone**—the northern portion of the province, with Headquarters located in Grande Prairie. The peacetime staff consisted of one EMO officer and one Clerk-Stenographer.
- (b) **Northern Zone**—an area surrounding the Edmonton Target Area, with Headquarters located in Edmonton. The peacetime staff consisted of three EMO officers and one Clerk-Stenographer.
- (c) **Southern Zone**—an area surrounding the Calgary Target Area, including the south-east portion of the province, with Headquarters located in Calgary. The peacetime staff consisted of three EMO officers and one Clerk-Stenographer.

16. The functions of the EMO Zone Officers were to provide guidance and assistance to municipalities in the development of their survival programs, and to co-ordinate the Zone plans for emergency government. Zone Officers made 650 visits to municipalities during 1961 to give assistance and advice, and to encourage progress in organization.

Target Area Organization

- 17. **Edmonton Target Area Civil Defence Unit.** This Unit was composed of seven municipalities, all of which were represented on the Target Area Control Committee. A full-time Target Area Co-ordinator was appointed in August 1961, and emergency planning was commenced. The date for the submission of the Interim Emergency Plan for the Target Area Unit was set for 15 February, 1962.
- 18. **Calgary Target Area Civil Defence Unit.** The organization of this Unit was similar to that of the Edmonton Target Area. Five municipalities were represented on the Control Committee, which also acted as a planning committee. The Director of Civil Defence for the City of Calgary was appointed Unit Director in February, 1961. The Target Area produced an integrated Hospital Disaster Plan for use in peacetime, and the overall Emergency Plan for the Unit was under development.
- 19. **Military Target Area Headquarters.**
 - (a) On 1 October 1961, the Canadian Army established two military Target Area Headquarters in Alberta, viz.:
 - (1) Edmonton Target Area Headquarters—at Wetaskiwin

(2) Calgary Target Area Headquarters—at Olds

- (b) The principal responsibility of these military headquarters was to plan re-entry operations and to co-ordinate their planning with municipal governments. Both military establishments functioned in close liaison and full co-operation with the civilian Target Area Units.

Municipal Organization

20. Six additional municipalities set up civil defence organizations in 1961, which brought the total number of municipalities organized or in the process of organizing, to:

(a) Cities	9
(b) Towns	71
(c) Villages	71
(d) Municipal Districts	22
(e) Counties	13
Total	186

PART TWO — CONTINUITY OF GOVERNMENT

General

21. Planning for the Continuity of Civil Government in an emergency, commenced in the preceding year, was continued during 1961 in all departments and agencies of the government.

Departmental Emergency Planning

22. During the year under review, a series of meetings for Emergency Planning Officers was held, at which progress in departmental planning was reviewed. Lectures on "Continuity of Government" and related subjects were given by visiting officers from the Federal Emergency Measures Organization. In consultation with Alberta Emergency Measures Organization, several Departments prepared and submitted drafts of their respective Survival Plans.
23. A special feature of plans for the continuity of government at all levels was the selection and preservation of essential records required for:
- (a) Operational purposes during an emergency.
 - (b) The reconstruction of government departments after the emergency.
 - (c) The protection of governmental and individual rights in the rehabilitation period following an attack.
24. Departmental Emergency Plans will contain information concerning essential records. The duties of Departmental Planning Officers included the selection of such records. The entire program of selection, preservation and storage of

essential records of all Departments and Agencies of the Government, was co-ordinated by the Provincial Secretary. In this connection, officers of the Federal Government visited Edmonton and Calgary in November, 1961. Several departments and branches of the provincial and municipal governments were interviewed, and it was anticipated that during 1962 the Federal Government would issue guidance to all those concerned with the selection and preservation of essential records.

Stall Training

25. In September, sixty-eight Provincial Civil Servants attended the first of a series of short courses to be conducted at the Alberta Civil Defence School.

Exercise Tocsin

26. All departments of the Provincial Government, having emergency functions, participated in the TOCSIN exercises held in May and November. Cabinet Ministers attended at the Regional and Zonal Headquarters. Departmental Emergency Planning Officers acted as Directing Staff or were assigned operational tasks of these Headquarters. A total of more than 200 Civil Servants were engaged in duties at the various emergency headquarters during each of the exercises.

Regional Emergency Government Headquarters

27. As mentioned in the 1960 Report, the Government of Canada announced that a building would be constructed in Alberta at federal expense to serve as a Regional Emergency Headquarters for representatives of the federal and provincial governments and elements of the Canadian Army. Construction of the building near Penhold was commenced in 1961 and was expected to be completed during 1962.

Relocation Accommodation

28. A survey was carried out to determine the availability and suitability of alternate accommodation from which government departments and agencies could support the Regional Emergency HQ. The result of the survey was the interim selection of Lacombe and Red Deer as Relocation Centres.

Emergency Health Services

29. The Department of Public Health was responsible for the continuation and expansion of health services during a national emergency, including the following main tasks:
 - (a) With the Canadian Army, the collection, evacuation and treatment of casualties;
 - (b) Emergency Public Health Services;
 - (c) Special health problems arising from the use of nuclear, biological and chemical warfare.

30. **Staff.** The staff of the Emergency Health Services Branch of the Department of Public Health consisted of a Nurse Consultant and one Stenographer. The position of Director, Emergency Health Services (on a part-time basis) became vacant in May, 1961, and the appointment of a Health Supplies Officer was not made during the year. Consideration was being given to the appointment of additional staff for the Emergency Health Services Branch. The voluntary services of a Committee, consisting of medical and other professionally qualified persons were available for advisory and planning purposes.
31. **Visits.** The Nurse Consultant made 40 visits to municipalities during the year to review the progress of Emergency Health Services planning in various hospitals, and to address meetings and nursing schools.
32. **Training for Medical and Auxiliary Personnel.** Representatives of Emergency Health Services participated in Hospital Disaster Exercises and the TOCSIN Series. Training for professional personnel was continued at the Canadian Civil Defence College and the Alberta Civil Defence School. Extension School courses in "Casualty Simulation" were conducted, and lectures on Emergency Health Services were included in the Civil Defence Orientation Extension School courses conducted at Magrath, Fort Saskatchewan and Nanton. Similar lectures were also given at the Summer Schools for Teachers, held at the University of Alberta in Edmonton and Calgary in July. For Training details, see Annexes "B", "C", and "D".
33. **Hospital Disaster Planning.** To date, 30 hospitals in Alberta have prepared Disaster Plans. Of this number, 21 hospitals have exercised their Plans (4 in 1961). At present, 69 other hospitals are working on the preparation of Disaster Plans.
34. **Operational Supplies.** The provision of medical supplies for use during an emergency was the responsibility of the Department of National Health and welfare. A federal Regional Health Supplies Depot was located in Alberta. The satisfactory deployment of supplies from this Depot to sub-regional medical stores depots in the Province was dependent upon the appointment of the Health Supplies Officer referred to in paragraph 30 above, and therefore planning in this field was not completed.
35. **Training Supplies.** During the year the Department of National Health and Welfare provided First Aid and Home Nursing Training supplies as required.

Emergency Welfare Services

36. In the event of a nuclear war involving Canada, the continuation and expansion of Welfare Services to provide food, shelter, clothing, etc., for the homeless and destitute would be vital. During the year, the Emergency Welfare Services section of the Department of Public Welfare prepared a draft emergency plan for this purpose. The plan

was being given detailed consideration prior to promulgation.

37. In the period under review, Emergency Welfare Services staff made 28 visits to municipalities for meetings and discussions with councils and municipal authorities. A number of instructional courses in General Welfare were held at the Federal Civil Defence College, Arnprior, Ontario, and at the Alberta Civil Defence School in Edmonton for Public Welfare staff and municipal volunteer workers. Details of these courses are given in Annexes "B" and "C". In addition, 14 lectures on Emergency Welfare Services were delivered at Extension School courses, conferences and public meetings. The 21 Regional Welfare Supervisors of the Department of Public Welfare were briefed on emergency functions and responsibilities. Representatives of Emergency Welfare Services worked at Regional Emergency Headquarters and the three Zonal Headquarters in Survival Exercises "TOCSIN 1961" and TOCSIN B 1961".

Emergency Police Services

38. The scope and control of police activities in a national emergency were subjects of special consideration during the year. An exploratory conference on planning for police services was held on 10 April. The conference was attended by the Assistant Commissioner and other officers of the R.C.M.P., a representative of the Department of the Attorney General, the Chief Constables of various municipalities, and representatives of the Army. The purpose of the conference was to obtain views and recommendations on matters associated with civil emergency planning and necessary legislation affecting police services. An advisory committee, under the Chairmanship of the Officer Commanding "K" Division, R.C.M.P., was appointed to formulate, for consideration by the Minister-in-Charge of Alberta Emergency Measures, proposals regarding special police legislation and other related matters in the field of emergency police planning.
39. Recommendations to the government resulted in the issue of Order in Council 2027/61 on 27 December, 1961, establishing an Emergency Planning Police Advisory Committee. The Officer Commanding R.C.M.P. in Alberta was appointed Co-ordinator of police activities, with authority to command and control all police forces in the province during a state of emergency.

Emergency Fire Services

40. A conference of fire officials of the province was held on 20 June. The purpose of the conference was to examine the question of emergency planning and legislation in relation to fire services. In attendance were the Deputy Provincial Secretary; representatives of the Department of the Attorney General, the Department of Lands and Forests, and other interested departments of the Alberta Government. The conference recommended the enactment of special legislation

covering emergency operation of the Fire Services in Alberta and that a committee should be appointed to assist the Fire Commissioner in future planning.

41. On 24 November, the Emergency Fire Services Regulations, made under the Civil Defence and Disaster Act, were issued under Order-in-Council No. 1812/61. Under these Regulations, the Provincial Fire Commissioner was appointed co-ordinator of Fire Services in the event of an emergency, with general command and control of all fire departments, fire officers, fire fighters, auxiliary equipment and personnel.

Emergency Communications

42. Co-ordination of the planning and operation of communications which would be required in the Province during an emergency was the responsibility of Alberta Government Telephones, in collaboration with appropriate provincial and federal government departments and the Canadian Army. A Departmental Planning Officer was appointed, and an Emergency Communications Plan was in course of preparation.
43. Responsibility for telephone and teletype communications between Regional Emergency Headquarters, the Relocation Centres and the three Zonal Headquarters and Target Area Headquarters, rested with the Canadian Army. These communications were to be supported by mobile radio, provided by the Alberta Government, and equipment for this purpose was tested during Exercises "TOCSIN 1961" and TOCSIN B 1961".
44. Amateur radio operators in the Province continued to be active members of Civil Defence organizations. The stations owned by these operators formed radio networks in outlying areas, and were valuable links in the provincial emergency system.
45. During the year a number of training courses for communications officers were held. Details of these courses are shown in Annexes "B" and "C".

PART THREE — TRAINING

Schools

46. An active program of training continued. During the year, many individuals attended courses of instruction designed to assist in the development of civil defence in the municipalities, and Alberta continued to take advantage of courses offered at the Canadian Civil Defence College.
47. Courses of instruction were conducted at:
 - (a) The Alberta Civil Defence School, Edmonton
 - (b) Several Alberta municipalities (Extension Schools and First Aid and Home Nursing courses).
48. A total of 4,998 students received training under provincial auspices during the year, making a grand total of 22,039 since the inception of the program. Tables showing the

detail of courses and numbers of candidates, form Annexes "B" and "C". In addition, municipalities conducted training, using their resources.

Excercises

49. Seven exercises were conducted during the year, making a total of forty-eight since the program commenced in 1950. Additional details relating to the exercises are contained in Annex "D".
50. Of special significance were Exercises TOCSIN 1961, and TOCSIN B 1961, held on 5 May and 13/14 November respectively, when Federal, Provincial and Military officials practised joint operations at provincial, zonal and target area headquarters. Ninety-seven Alberta municipalities took part in Exercise TOCSIN 1961, and one hundred and thirty-one in Exercise TOCSIN B 1961. These exercises were under the central direction of the Federal Emergency Measures Organization, and lessons learned will be applied to similar exercises to be held in 1962.

PART FOUR — ADMINISTRATION

Costs

51. Approved expenditures were shared jointly by the federal, provincial and municipal governments, under the terms of the Financial Assistance Program. In 1959, the federal authorities announced that 75% of all approved civil defence expenditures would be borne by the Federal Government. For the fiscal year 1961/62, an initial allocation of \$314,400.00 of federal funds was set for Alberta, based on a rate of 25c per capita (population as of 1 September 1960). However, this amount covered slightly less than 45% of approved projects in Alberta.
52. In November 1961, the Federal Government made a further allocation of funds, and a sufficient sum was allotted to Alberta to provide 75% of approved civil defence expenditures for the fiscal year 1961/62. This increased the federal commitment to Alberta for 1961/62 from the original \$314,400.00 to an estimated \$532,610.25.
53. Alberta's civil defence costs to the end of the fiscal year 1960/61, as apportioned among the federal, provincial and municipal governments, are detailed below:

	Federal Share	Provincial Share	Municipal Share	TOTAL
Expenditures from 8 Nov., 1950 to end of fiscal year 1959/60	\$1,145,028.65	\$1,545,914.55	\$196,718.41	\$2,887,661.61
Expenditure for fis- cal year 1960/61	388,208.46	129,402.82	20,919.30	538,530.58
Grand Totals	\$1,533,237.11	\$1,675,317.37	\$217,637.71	\$3,426,192.19

54. Municipal expenditures in the table above were only those shared under the Financial Assistance Program. The total municipal expenditures for civil defence purposes were in excess of the figures shown, as some municipalities made additional expenditures not covered under the sharing program.
55. **Estimated Costs for 1961/62.** Civil Defence costs, with one hundred and thirty-eight municipalities participating in the Financial Assistance Program for the fiscal year 1961/62, were estimated as follows:

Estimated 1961/62 provincial/municipal expenditures for civil defence (including DPW expenditures)	\$ 710,147.00
Less refund from Federal government (75%)	\$ 532,610.25
<hr/>	
Estimated net cost to Alberta (including municipalities) 1961/62	\$ 177,536.75
<hr/>	
Estimated net cost to Alberta Government	\$ 149,112.45

Public Information

56. A Public Information Program was maintained during the year, details of which are shown in Annex "E". Although the public showed more interest in Civil Emergency Planning and Personal Survival, it was evident that increased information must be provided and additional work was planned to ensure that every citizen would be aware of measures being taken for his safety, and those which he must plan for his own preservation.

PART FIVE — CIVIL DEFENCE

Alberta Survival Plan

57. The first Volume of the Alberta Survival Plan (entitled "Planning Instructions") was issued in December, 1960. During the year 1961, two further Volumes were published, viz.: Volume TWO, "General Information," April, 1961. Volume THREE, "Operational Plan", October, 1961.
58. Volume Two provided material for the guidance of departmental and municipal officials assigned the responsibility of preparing Survival Plans for their respective departments, agencies, or municipalities.
59. Volume Three contained the Operational Plan of the Government of Alberta.
60. A number of municipalities commenced work toward the preparation of Emergency Plans, and several first drafts were received for review, and subsequent approval.
61. During the year, the Canadian Army transferred the Provincial Warning Centre (PWC) to the Interim Regional Emergency Headquarters to improve the operating capability of the National Survival Attack Warning System (NSAWS). The primary outlet from the PWC to the Alberta Government was located at Headquarters Alberta EMO, and this position was manned on a continuous basis by the headquarters staff.

62. New and additional sirens of the NSAWS were installed by the Canadian Army in the main population centres. These were tested during Exercise TOCSIN B with unsatisfactory results.

HQ Alberta EMO
Edmonton
31 December, 1961

ANNEX "A" to
Alberta EMO
Annual Report, 1961

CONFERENCES

1. During the year 1961, the following conferences were held:

(a) **Area Commander's Study Period (Canadian Army).** This Study Period was held 21, 22 January, and was attended by military personnel from Alberta Area (Canadian Army—Regular and Militia), the RCN and RCAF, together with representatives from the Federal and Provincial Governments and the Target Areas of Edmonton and Calgary. The purpose of the conference was to consider problems in the field of joint survival operations.

(b) **Zone Conferences.** On 23 January, and again on 22 and 23 June, conferences with Officers-in-Charge of Zones was held at Headquarters Alberta EMO to discuss zone organization and development.

(c) **Provincial Ministers and Commanders Conference—Western Command.**

(1) This conference, called by the General Officer Commanding Western Command, was held in Winnipeg on 17 - 18 April.

The aim of the conference was threefold:

(a) To review progress made in National Survival planning since the last conference held in April 1960 in Edmonton.

(b) To exchange ideas on the various problems which the Army and the provinces had encountered during the past year.

(c) To reach mutual agreement and to arrive at a common approach to National Survival problems.

(2) In attendance at the conference, from the four Western Provinces and the Yukon Territories, were:

(a) Senior Officers, HQ Western Command

- (b) Senior Officers from each of the Military Areas in the Command
 - (c) Provincial Ministers-in-Charge Emergency Measures
 - (d) Federal Regional Officers
 - (e) Provincial EMO/CD Co-ordinators
 - (f) Senior RCMP Officers
 - (g) Provincial Fire Commissioners
- (d) **Dominion/Provincial Conference on Emergency Measures and Civil Defence.**

This conference was held on 27 November, at Ottawa, and was attended by Federal representatives and by the Provincial Ministers-in-Charge of Emergency Measures/Civil Defence and their staffs. Alberta was represented by the Minister-in-Charge of Emergency Measures, the Co-ordinator and the Deputy Co-ordinator.

(e) **Alberta EMO Conferences with Municipal Representatives.**

In December, conferences with municipal officials (mayors, reeves, etc.) and Civil Defence Directors were held in each Zone, to discuss the development of Civil Emergency Planning and Civil Defence. Conference details are as follows:

Zone	Location	Date	Officials in Attendance
Southern	Calgary	1 December	80
Peace River	Grande Prairie	8 December	36
Northern	Edmonton	15 December	91
Total in Attendance			207

ANNEX "B" to
Alberta EMO
Annual Report, 1961

TRAINING DETAILS

CANADIAN CIVIL DEFENCE COLLEGE

1. Since the inauguration of Civil Defence in Alberta, candidates have been selected each year for training in various aspects of civil defence at the Canadian Civil Defence College, Arnprior, Ontario.
2. The following table shows the courses held in 1961 at the Canadian Civil Defence College and the number of Alberta candidates trained at these courses.

Type of Course	Number of Courses	Alta. Candidates
Orientation	6	7
Planning	1	3
Operations	3	5
Rescue Instructors—Part A	6	7
Rescue Instructors—Part B	6	5
Rescue Instructors—Part C	6	4
Radiation Monitoring—Instructors	4	7
Technical Officers		
—Radiological Defence	2	1
Shelter Analysis Technique	2	10
Agrologists Forum	1	5
Communications	1	4
Prov. CD Co-ordinators' Conference	1	2
Conference—Mayors & Reeves	1	19
Health		
Nurse Educators	2	9
Nurse Specialists	1	4
Physicians & Dentists Indoctrination	2	10
Pharmacists Refresher & Conference	1	6
Veterinarians Indoctrination	2	12
Hospital Administrators	1	6
Welfare		
Emergency Feeding	2	3
Emergency Lodging	1	3
Personal Services	2	5
Welfare Directors Conference	2	4
TOTALS	56	141

3. To date, 1,560 candidates from Alberta have received training at the Canadian Civil Defence College.

ANNEX "C" to
Alberta EMO
Annual Report, 1961

TRAINING DETAILS PROVINCIAL AND MUNICIPAL SCHOOLS

Alberta Civil Defence School

1. Provincial civil defence training began in September, 1951. From that date, the Alberta Civil Defence School has provided various courses of training for selected candidates from the municipalities.
2. The following table shows the courses held and the number of candidates trained in 1961.

Type of Course	Number of Courses	trained Candidates	T
Summer School for Teachers	2	151	
Rescue Instructors	2	43	
Orientation	4	159	
Welfare	3	144	
Nurses (Orientation)	1	62	
Radiation Monitoring	1	24	
Technique of Instruction	1	9	
Communications Officers	1	39	
TOTALS	15	631	

3. The above brought the total of candidates trained at the Alberta Civil Defence School to 5,648.
4. Military personnel, from the Regular and Militia Units of Western Command and Alberta Area (Canadian Army) and from the RCAF Stations in Alberta attended courses at the Alberta Civil Defence School. In addition, the facilities of the Alberta CD Rescue School were made available to the Canadian Army for a total of 30 weeks in 1961.

Civil Defence Fire Training

5. In the year under review, training with Civil Defence fire pumpers was given to 52 Civil Defence auxiliary firemen and to 368 members of Municipal volunteer fire brigades—bringing the total number of firemen trained to date to 2,000 Civil Defence auxiliaries and 2,725 Municipal volunteer firemen; a grand total of 4,725.

Alberta Civil Defence Extension Schools

6. See Appendix 1, attached.

Municipal Radiation Monitoring Courses

7. See Appendix 2, attached.

Civil Defence First Aid and Home Nursing

8. See Appendix 3, attached.

APPENDIX 1 to
ANNEX "C" to
Alberta EMO
Annual Report, 1961

ALBERTA CIVIL DEFENCE EXTENSION SCHOOLS

1. Alberta Civil Defence Extension Schools commenced on 4 March, 1957. The following table shows the number of candidates trained in the various courses during 1961.

Type of Courses	Number of Courses	Candidates Trained
Orientation	21	1,284
Casualty Simulation	2	28
Control Room Procedures	6	132
TOTALS	29	1,444

2. The above brought the total number of candidates trained on Alberta Civil Defence Extension Courses to 2,716.

APPENDIX 2 to
ANNEX "C" to
Alberta EMO
Annual Report, 1961

MUNICIPAL RADIATION MONITORING COURSES

	Name of Municipality	Number of Courses	Candidates Trained
1.	Peace River Zone		
	City of Grande Prairie	1	12
	Town of Fairview	1	9
	TOTALS	2	21
2.	Northern Zone		
	Town of Devon	1	8
	Town of Drayton Valley	1	12
	Town of Leduc	1	7
	Town of Tofield	1	10
	Town of Viking	1	8
	M.D. of Leduc No. 75	1	16
	M.D. of Vermilion River No. 71	1	9
	TOTALS	7	70
3.	Southern Zone		
	Town of Okotoks	1	14
	TOTALS	1	14
4.	The above brought the total of persons trained in Radiation Monitoring in Alberta, at municipal and provincial courses, since the inception of the program to 1,220.		

APPENDIX 3 to
ANNEX "C" to
Alberta EMO
Annual Report, 1961

CIVIL DEFENCE FIRST AID AND HOME NURSING

1. **First Aid.** In 1961, 67 Civil Defence First Aid Courses were conducted by St. John Ambulance Association, giving training to 1,707 candidates. Since January, 1949, a total of 5,530 candidates have received First Aid training in Alberta—at no cost to the candidates.
2. **Home Nursing.** During the year, 35 Civil Defence Home Nursing Courses were conducted by St. John Ambulance Association, giving training to 655 candidates. Since the inception of the program in 1957, a total of 1,860 candidates have been trained.
3. In addition to the Civil Defence program, St. John Ambulance Association trained, in their own regular program, 7,628 candidates in First Aid and Home Nursing. The grand total of persons trained since 1 January, 1949, in First Aid and Home Nursing is 86,882.

ANNEX "D" to
Alberta EMO
Annual Report, 1961

TRAINING DETAILS
CIVIL DEFENCE EXERCISES

1. Since November, 1950, forty-eight exercises were conducted in Alberta, and of this number, the following seven were conducted during 1961:
 - (a) **Exercise Tocsin 1961**—5 May (National Exercise).
 - (b) **Edmonton & Calgary Amateur Radio Association Field Day Exercise**—24, 25 June (Test of emergency power units and amateur facilities).
 - (c) **Hospital Disaster Exercise**—18 October (St. Joseph's General Hospital, Vegerville).
 - (d) **Hospital Disaster Exercise**—25 October (Misericordia Hospital, Edmonton).
 - (e) **Hospital Disaster Exercise**—30 October (Tofield Municipal Hospital).
 - (f) **Exercise Tocsin B. 1961**—13, 14 November (National Exercise).
 - (g) **Hospital Disaster Exercise**—18 November (Taber Municipal Hospital).

ANNEX "E" to
Alberta EMO
Annual Report 1961

ALBERTA EMO PUBLIC INFORMATION PROGRAM

1. In order to keep the need for emergency planning and civil defence before the citizens, Alberta EMO maintained a diversified public information program.
2. **The Circular**. Three issues of "The Circular" were published. This periodical received wide distribution and kept municipal officials and Directors of Civil Defence informed of developments in the field of Emergency Measures and Civil Defence.
3. **Films**. From HQ Alberta EMO, films were issued to CD Directors throughout the province on request. Eighty titles were available, and 40 of these were in constant demand. During 1961, requests for films totalled 500.
4. **News Releases**. In 1961, news releases were issued to all newspapers, radio and TV stations, approximately once a month. Joint releases were made for the National Exercises by Alberta EMO, Federal Regional EMO and the Canadian Army. In addition, many personal contacts were made with reporters and news directors.

5. **Pamphlets.** During the year Federal EMO provided 638,420 copies of various pamphlets. Of this number, distribution was made to municipalities, exhibitions and individuals as follows:

	Received	Issued
"Basement Fallout Shelter" (English)	25,400	25,400
"Basement Fallout Shelter" (French)	5,600	100
"11 Steps to Survival" (English)	150,970	89,656
"11 Steps to Survival" (French)	8,550	1,000
"Survival in a Nuclear War" (English)	15,000	15,000
"Survival in a Nuclear War" (French)	2,000	nil
"Your Emergency Pack"	345,000	81,000
"Fallout on the Farm"	30,000	18,100
"Welfare Tips for Survival"	25,900	25,800
"Wallet Cards" (Federal)	30,000	30,000
TOTALS	638,420	286,056

6. **Family Fallout Shelter Exhibits.** During 1961:

- (a) Full-scale family fallout shelters were constructed two in Edmonton sponsored by radio stations, and one in Calgary sponsored by a large shopping centre. In each case, people lived in the shelters for periods from 3 to 7 days, during which time radio interviews were conducted with the occupants.
 - (b) Small-scale model family fallout shelters were exhibited at the Calgary Stampede, Edmonton Exhibition, and other exhibitions throughout the province.
7. **Post Office Box 10,000.** Federal EMO established a Post Office Box in all Provincial Capitals in Canada. Associated publicity advised the public to write to Post Office Box 10,000 for survival information. The Alberta Box was activated on 1 October, and between the period 16 October and 17 November 6,520 inquiries were received requesting "11 Steps to Survival" and other pamphlets. All of these requests were met.
8. **Survival Information in Telephone Directories.** Survival information consisting of a full or half page notice was inserted in the six telephone directories published in the province.
9. **Wallet Cards. (Provincial).** Two hundred thousand wallet cards, containing survival information, were received during the year, and of this number, one hundred and twenty thousand were issued.
10. **Speaking Engagements.** Alberta EMO staff made over one hundred addresses to approximately three thousand five hundred people. In addition, the Co-ordinator made three television appearances on programs: "Interview"; "Face the Newsmen"; and "Eye on Edmonton". He also participated in two radio programs of one hour and two hours duration respectively, answering questions on Emergency Measures and Civil Defence, telephoned in by the listening audience.

